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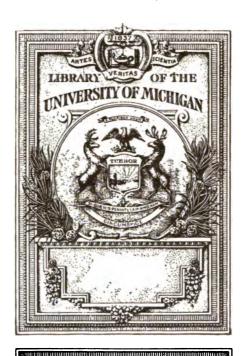
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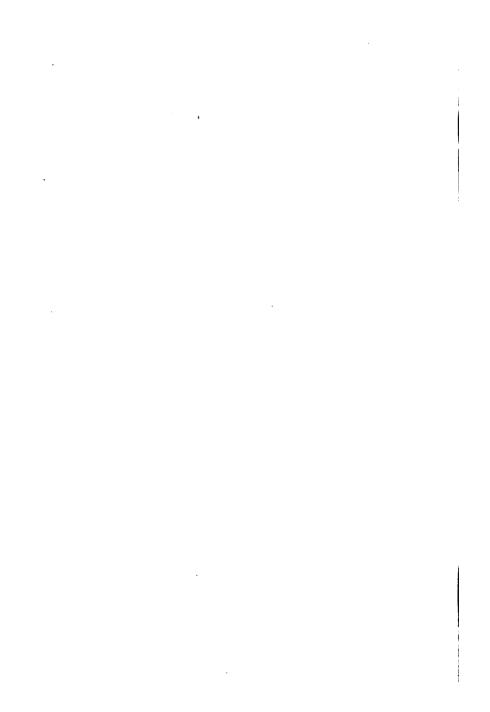


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Riverside Educational Monographs

EDITED BY HENRY SUZZALLO

PROFESSOR OF THE PHILOSOPHY OF EDUCATION TEACHERS COLLEGE, COLUMBIA UNIVERSITY

THE PEOPLE'S SCHOOL

A STUDY IN VOCATIONAL TRAINING

RUTH MARY WEEKS



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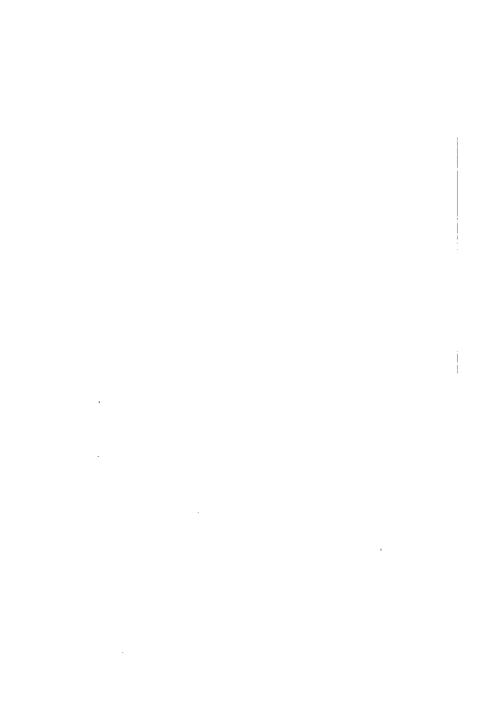
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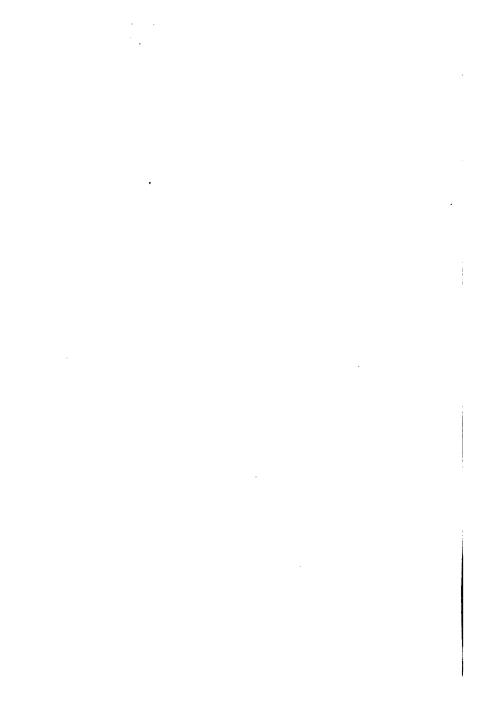


AUTHOR'S NOTE

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RUTH MARY WEEKS.

May 6, 1912.



EDITOR'S INTRODUCTION

It seems to be difficult for us to learn that human institutions may not be borrowed outright. The sight of some new form of efficiency in our neighbors over the sea stirs the conscious progressives at home to minute and wholesale imitation. This is particularly true where we feel second-rate,—in art, science, and education. In politics and industry, we are a trifle cock-sure of ourselves and copy scarcely at all; but elsewhere we tend to be over-impressed by foreign example.

The history of conscious educational reform in America offers many illustrations of indiscriminate institution-matching, all the way from the kindergarten to the university. There have been large gains, of course; but we have paid an unnecessarily high price in maladjustments. If only we had noted the essential elements of foreign experience and moulded the institutional forms to suit our own population and national ideals, we could have made our institutions far more effective.

Just at the present hour, when we are assuming a vast program of vocational education, we vii

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should have a particular care as to the way in which we are influenced by European experience and example. The social currents of our own life can no more be neglected in the construction of new human institutions, than the laws of gravitation in the building of material structures. It is all a matter of concrete conditions—the place where we build, the materials used for construction and the purpose we have in mind. Our human conditions never are coincident with those in any European country, and we ought at the very outset to assume that no European system of vocational training will wholly fit our needs. This might be laid down as a first principle.

We shall of course need to study foreign practice. A truly rational progress is always founded upon the lessons of experience, and when we have had little of our own, we are bound to understand that which belongs to others. But certainly we need to give as close study to our own social and economic conditions as to the educational devices of a foreign land, for whatever we see in the latter must be transmuted in terms of the former. In no other way can we render foreign experience into practice economically and stably valuable for ourselves.

Just because the following monograph presents viii

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the problem of vocational education with an approach and emphasis opposite to that of much current discussion, it is offered to the educational public with a special faith in its worth. The volume is more than a stimulating presentation of facts and generalizations; it exemplifies a method of studying a vital institutional problem that ought to gain a wider acceptance among our educational reformers.



I

FOREWORD

THE fact that only nine per cent of the pupils who enter the early grades of American public schools finish a high school course should be the cause of serious concern to every citizen. The taxpayer may well ask himself why he contributes over twice as much for the support of secondary schools that benefit one tenth of the population as for that of those in which most children receive their only education. The educator must marvel that, with all the care and money lavished on our higher institutions of learning, they prove so unattractive to the majority of our children. And the worker for the public weal can find but a slowly widening outlook for social betterment when so small a per cent of the next generation are availing themselves of the means of improving their condition.

That the public school is the corner stone of American democracy, has been reiterated until

it is the merest platitude, but like most platitudes, it is absolutely true. If the people are to govern, they must know how to govern.

The present is a time of feverish activity in all lines of philanthropic work. Social settlements flourish. The juvenile court is an established factor in legal procedure. Prisons are transformed into reformatories. Charity organization societies coördinate the work of a hundred different agencies for alleviating distress. And while these various agencies have been helping the victims of society, they have learned a great lesson. The cause of the distress they strive to eliminate is in almost every case ignorance. The ignorant mother fed her baby soured milk and it sickened. The ignorant consumptive slept in darkness and filth, with closed windows, and died. The ignorant voter sold his franchise to a boss and stole from his own pocket. The ignorant public allowed dark, unsanitary tenements to be built in its midst and found itself confronted with a slum problem. The ignorant immigrant contracted himself to a master for half a man's wages and his family starved. The ignorant parent took his child to work with him in the factory and reduced his income. Less obvious examples do not lack. Ignorance - public or

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private: at this door can be laid most wrongs and most endurance of wrong. If, then, to borrow Emile Munsterberg's phrase, "The aim of social work is to make itself superfluous," the way to effect a fundamental betterment in social conditions is to combat ignorance. No matter how picturesque, no matter how intelligently conducted and undoubtedly beneficent such enterprises as reform schools, juvenile courts, poorrelief agencies, tuberculosis camps, and the like may be, their results are at best patchwork. They are necessary; they are magnificent; they are indeed educational: but they do not strike to the bottom. They make suffering more tolerable; and they also serve to show what an amazing number of things humanity needs to be taught.

It is true that the proportion of grammar school to high school enrollment has tripled in the last fifty years. Yet is it a too paradoxical inversion of cause and effect partly to explain our previous growth in high school attendance by the wide extension of free school facilities which has taken place in this last half-century? And is there not reason to doubt whether, under the present régime, this growth will or should continue? In other words, in settled communities where there

are educational opportunities for all, has not the attendance upon high schools of the orthodox academic type reached a comparatively steady ratio to population?

Thus we return to the point that because education is the only sure instrument of progress, it ought to cause grave concern to every person interested in the welfare of our country that as yet so small a per cent of our children take full advantage of the opportunities liberally offered them.

The object of this book will be to explain why, in the opinion of the author, the attendance in our upper grades is so small; in what points our schools fail to meet the needs of our people; and how the course of instruction may be made more practical and thus hold children in school until such time as they are better trained for citizenship. It will also attempt to place the movement for trade education in relation to other social movements of the day. This discussion will be illustrated by a comparison with foreign methods, based on personal investigations of French and German schools.

Of necessity, these pages must repeat much that is an old story to students of the question. Indeed, the present work represents not so much

FOREWORD

new arguments and conclusions, as a marshaling of old facts in a somewhat more comprehensive array than has yet been attempted. However, as Charles Warner wrote four years ago in Charities and the Commons, "Although the inadequacy of the public schools, as they are now conducted, to meet fully the greatest educational need of our times, is generally admitted, it may be questioned whether the influences that have brought about the development of a one-sided system of education, strong in the literary and scientific elements but weak and ineffective in vocational aims and results, are fully understood: whether the ultimate effect upon the productive industries, upon commerce, and upon society of a continuance of such a scheme of education, is generally appreciated; and whether the responsibility of state and municipal authorities in the matter is recognized."

II

THE HAND OF IRON

"A rational system of education will take account of changes in society and keep pace with their evolution."—ASTIER.

Your true pedagogue is essentially a man of the world. He looks abroad to see the life for which he must train his pupils and thereby shapes his program. Before we can intelligently criticize our school system, we must formulate a definition of society to serve us as a touchstone. Judging by the direction of the most vigorous creative activity of the present day, we may say that we live in The Age of Industry. As feudalism was the supreme offering of the ninth and tenth centuries to history, so our industries will be our contribution to progress. Into them go the imagination, the inventive genius, the daring of the American people.

Our industry has peculiarities which distinguish it from that of the Middle Ages, when Holland and Belgium and Italy were humming workshops and the merchants were princes even as they are to-day. Then men labored with their

two hands, and from their skillful finger tips there passed into their work something of the very life and thought and feeling of the craftsman, until every most trifling product, every cluster of stiff roses carved on some blackened stick of furniture, every curious bird and beast tucked into the stonework of old churches, seems humanized. But industry has long since ceased to employ the hands of its workers. It uses more and more the iron hand of the machine. To write, to sew. to embroider - M. Brizon 1 details a dozen processes in which the machine with an almost uncanny dexterity supplants human fingers. With what vividness was the saying, "The man does not work; he watches the machine work," brought home to me in a New Haven screw factory! There in a long dark room stood row after row of machines, all operating with a low, clicking sound. Each row represented the entire process of manufacture, from the time the steel wire was wound off a reel into the first apparatus to the moment when a completed screw dropped into a box behind the last machine. Several girls walked about the room and transferred boxes of

¹ Pierre Brizon, author of *L'apprentissage*: *Hier*—Aujourd'-hui—Demain and professor in the École pratique d'Industrie de Rennes.

half-finished screws from one machine table to the next. This was their whole occupation. The reason for this was suddenly apparent when a long jointed arm of steel stretched out slowly from one machine to the box of raw material on the next table. A two-fingered hand at the end of the arm closed on a screw, lifted it with precision, opened its clawlike fingers, and dropped the bit of steel into position. As these hundred iron hands silently performed an almost human function, something of the terrible power of machinery over the human lives that obey its dictates and surrender their minds to its mind was impressed upon me.

This possible subservience of the man to the machine is the point where education must act for the protection of humanity against automatonism. The machine is in reality an extended hand, just as the pen is merely an extended finger. As the finger obeys the dictates of the mind, so in turn does the pen. We are not dominated by our writing apparatus, but dominate it. Man is continually appropriating parts of his environment and so joining them to his body. The typewriter, for instance, is a more skillful, elaborated hand which enables the mind to dominate more perfectly its writing apparatus. Larger and

more complicated machines are also only extended hands developed to give the intellect greater freedom in carrying out its inspirations. Yet, far from giving greater freedom to the operator, the machine often kills life and intelligence. The weary operative in the cotton mill comes home from his day-long crossing and recrossing of shuttles, stupefied, incapable of rousing himself to social pleasures without alcoholic stimulus. The one hundredth of a shoemaker clips on buttons year after year until his mental horizon is bounded by the circumference of a button. The man is dominated by his machine; instead of his using the hand of iron for his own purposes, it has him by the throat.

In commerce, the bookkeeper, the clerk, even the directing manager himself become slaves of the business organization, of routine, of a disembodied machine. For what is any machine but routine immutably fixed in wood and steel? In every department of public service, the wheels of institutionalism grind on, relentlessly crushing personality and overwhelming individual initiative by their tremendous inertia.

Extreme specialization in industry has turned man into a human tool instead of an independent, self-directing individual. Machinery has ren-

dered a long apprenticeship and the mastering of all the details of a trade unnecessary. A worker can learn a single process in a few days and begin remunerative work at once. But the narrowing results of over-specialized labor soon begin to show. It becomes impossible to teach him more of the trade in general, because his brain is stunted, and all his life he remains an unskilled laborer in a poorly paid, deadening position. If the operative enters the factory very young, and if he survives until he is sixteen, his brain becomes so atrophied that unless he has previously learned to read and write, he can never acquire even these rudiments of an education.

With the introduction of this extreme specialization in industry has come a general decay in the old forms of apprenticeship that were once the safeguard against its dangers. Formerly a laborer learned a whole trade; he was resourceful; he could turn from one occupation to another; at least he understood the relation of the operation he performed to the entire process of manufacture. He had some intelligence about his work, some relation to the finished product. But the day of small employers with small shops, where apprentices could be profitably received and thoroughly instructed, is past.

There remain amazingly few industries which still take apprentices. Investigation shows that, out of four hundred establishments in Ohio, only sixty had apprenticeship systems and only three aimed to turn out first-class mechanics. It is true that certain large corporations, such as the New York Central Railroad, have regular schools of their own for training apprentices, but as one shop comprises many trades, this is possible only where very large numbers are employed, and even then is such an expensive undertaking as to burden any but the wealthiest company. William Dooley, of the Lawrence Industrial School, claims that only one third of one per cent of men between fifteen and twenty-four receive instruction bearing upon their occupation, and the educational path of even this infinitesimal fraction is rough and crooked. Union men give little adequate help to raw recruits, as they fear to create competitors for their own positions. Large concerns find the rush of production too great for them to spend time and material on apprentices. It pays better to put a man at once to work on some swift minute process, which he can learn without practice and perform without waste; and the narrow margin of profit in many smaller shops also leads their owners to use "little workers"

on odd jobs with no educative value, but from which direct financial profit accrues to the business. The baker's boy is seen running errands instead of being taught to bake bread; the child in the mill stands by and hands bobbins to the man at the spinning-machine—a necessary link in the process of manufacture, but not an employment calculated to develop an intelligent, self-supporting adult worker.

At the present time, when there is the greatest temptation to the abuse of apprentices, we find no laws on our statute books to protect the child in industry and to procure him proper trade instruction. Formerly the law was very strict in this regard. An employer could not receive apprentices into his shop without giving proof of his ability to instruct them. The number of apprentices per shop was limited to insure each one his share of attention, and failure to perform his duty toward his apprentices cost the employer the privilege of receiving them. Before entering upon the practice of his vocation, the apprentice submitted, to a committee of judges chosen from the master workmen in his trade, a finished piece of work as guarantee of his capacity. Thus were the intelligence of the individual worker and the standard of the trade safeguarded. This medi-

eval system fell into gross abuse, but the abuse was due to a fault, not in ideal, but in administration. The system was designed to uphold excellence in workmanship, but the unregulated corporations, or free guilds, dominated by the employing class, used it to uphold their own power, and so brought about stagnation in industrial methods.

But the day of apprenticeship is, as we have said, over. It is not now a question of writing laws to protect apprentices still left in isolated industries. It is a question of what is to take the place of old-time apprenticeship as a training for life work; of what is to insure us a generation of competent laborers, of inventive workmen, not mere cogs in the machine but workmen who will contribute creative mental effort to the progress of industry.

In spite of the success that attends modern production, results of the subservience of the man and his mind to the machine are not far to trace. Enter a large department store and walk past counter after counter heaped up with salable wares. Banal, senseless stuff, much of it! That a great improvement in some sections of public taste has come about of late is not to be denied. Arts and crafts work of a very acceptable

character is to be seen jumbled together with flamboyant rubbish masquerading under the name of art. Go into the furniture section: simple, sensible, mission wood forms a restful oasis in the gimcrackery. And yet even these promising departures from current bad taste seem to have no force left over to carry production beyond the first side-step. A new style once discovered, it is duplicated and reduplicated ad nauseam. Moreover, are not our most beautiful modern chairs and tables copies of this or that antique fashion? The china section is crowded with reproductions of Sèvres, of luster, of Wedgwood ware. The most harmonious rugs are antique or imitation thereof.

Walk down a residence street built some years back before the reproduction of older architectural styles came into vogue. What meaningless, formless houses! What unmitigated plainness or what ugly, helter-skelter application of inappropriate ornament! How self-contained the colonial mansion around the corner seems! Its walls and chimneys, porches and shutters, belong together. It is unified, artistic, fills the eye as a whole. But even in the newer streets lined with such houses of individual, though borrowed, beauty, one has a curious impression of incon-

gruity. A Southern house with spacious galleries fronts an old English manor; a Swiss châlet and a Queen Anne brick stand side by side. A Renaissance palace holds itself compactly aloof from a rambling Spanish Mission in stucco. And on opposite corners are a Jewish synagogue in perfect imitation of the Parthenon, and a Methodist church in German Gothic. One rubs one's eyes in wonder if this be a sober everyday street or an architectural mask-ball. One expects to see the residences whip off their motley and appear in modern American garb. But, no! There is no American garb for them to put on. Our civilization has not yet expressed itself in stone. It is not yet thoroughly enough unified, and when it departs from beaten tracks, falls into chaotic scrollwork and the like.

In such generalizations, it is possible to overstate grossly. To much that is said in the present chapter, the reader must make his own mental reservation. There is fortunately a reverse to the picture, but at this moment we are concerned with the darker side and with the reasons for its dimness. The inartistic, heterogeneous character of the bulk of our manufactured articles is partially traceable to the facts of production discussed in the foregoing pages. The first principle

of art is unity, wholeness. The work of art is an integral thing, the perfect expression of a complete thought or feeling. The man who deals in little scraps of life can never produce anything artistic. He can never write a novel—only a string of disjointed scenes. He can never paint a picture—only a huddled group of unrelated objects. He can never compose a melody—only a succession of isolated notes without cadence. Does he turn himself to humble decorative arts, the quality that fuses diverse parts together into a harmonious whole will be equally lacking. The border of Brussels lace has its laws of fitness as well as the symphony. The carved center table has the same claim to integrity as the drama.

But what of the producers of our laces and center tables, of our crockery and wall paper? Do they deal in complete thoughts and feelings? Do they deal in wholes, or only in scraps of life? Follow a simple article like a china tea cup through its creation in a New Jersey factory. Does it grow gradually beneath the hand that conceived it till it stands fragile and perfect, the line of gold within the delicate bowl prophetic of bright amber drafts, the handle molded for the touch of slim fingers, and the slender spray of flowers without the brim suggesting the evanes-

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cent aroma of the tea? No! the process has been most unpoetical. The cup has passed through a hundred hands on its way to the delivery room. One man worked the clay; another molded it; another painted the flowers by a prescribed pattern; another thrust it into the baking-oven; another watched it and took it out, and so on till we reach a person whose entire function has been to put on the tiny spot of gilt in the center of each blossom. All day long he has done nothing but apply gilt dots to flowers on tea cups of whose origin he knows little, and of whose destination he cares less. If some one should invent a machine that could apply gilt dots with unfailing accuracy, the man would disappear from industry and no one be the loser. That he is a man counts for nothing. How can the laborer who makes so microscopic a part of an object contribute to its artistic quality? Of course he is expected to contribute nothing. He is blindly following the plan of another. Yet he is studying in the industrial school which must shape our national taste. He is dealing with mere scraps of his trade. When called upon to construct a tea cup of his own, will it not be an ill-assorted patchwork of forms and lines and colors?

A more obvious result of the entire separation

of the worker from the finished product is a certain deterioration in output which is prevented only by the greatest diligence on the part of inspectors and foremen. Here, too, caution must be taken not to overstress a partial explanation for a situation dependent on many causes. But it is only natural - mankind not yet being endowed with those ethical qualities that entail blind, minute, impersonal right doing - it is only natural that a man who adds a single spot of gilt to a tea cup will take less interest in having that cup perfect in every detail than if the entire article were the work of his own hands and would be known and criticized as his. In fact, "Tom Jones, his cup" will be much better made than "Tom, Dick, Harry, and nobody knows or cares whose cup." In these days of enormous factories and antagonism between labor and capital. we have lost much of the old personal interest in the honor of the firm which might once have taken the place of individual pride and bound every hand over to his best effort in even so small a matter as gilt dots. Therefore we have much that is shoddy and ill-made turned out upon the market, and as the market has a voracious, indiscriminative appetite which manufacturers do not neglect to stimulate, much that is hideous, use-

less, and undurable finds its way into our homes. The consuming and producing public are the same; their respective taste and intelligence is a closed circle.

This specialization is not only anti-artistic but anti-progressive. True it is that one cause of our industrial advance has been the specialization of hand processes until one man, in performing the same operation a thousand times a day, at last reduced it to such simple terms that a machine could take it over. But in the course of this development, we have lost humanly while we gained mechanically. In the past, the great inventions have come from the ranks of the workers. And though invention is becoming more and more a special profession, still, if we reduce this laboring public to automatic, unthinking machines, we are shooting a heavy bolt across the door of progress.

We do not need to go farther into the discussion to infer that society has created a mighty tool whose use we have not yet mastered, and which therefore bids fair to master us,—the iron hand of the machine. It is a case of how to prevent the tail's wagging the dog. To control and best utilize the mighty equipment which industry possesses, it goes without saying that we need a

skillful, intelligent labor force. That we seriously lack such a force is proved by the complaints of employers on every hand. C. W. Cross, superintendent of apprentices for the New York Central Railroad, reported some time ago that their shops were in straits for lack of well-prepared machinists. Mr. Thurber, of Ginn & Company, says: "In our work, we need skilled, thoroughly trained workers whom we find it more and more difficult to get. There have been times when, if there had been a place where we could send a promising man to learn things thoroughly, we would have sent him at our own expense and paid him a salary to go."

The National Educational Association, in its 1909 report, publishes the startling figures that fifty per cent of our skilled mechanics are foreign-born and trained and that ninety-eight per cent of the foremen in New York manufactories were educated across the water. In other words, Americans to fill such positions are not to be found. The demand for skilled workers is otherwise proved by the flourishing of private technical and commercial schools for adults who are trying to make up for lost time and fit themselves for the jobs they see monopolized by their alien rivals.

The American Federation of Labor, alive to the interests of American workers, has appointed a committee to look into the question of industrial training. One reads daily in the papers, one hears daily at the dinner table, discussions of the incompetence of workmen. At afternoon tea, dainty my lady can talk of nothing but "stupid Jane" and "inefficient John." There is even very grave suspicion whether, if my lady were deserted by Jane or John, she could wield domestic implements with greater effectiveness.

If we doubt the testimony of employers, we need only to mark the rapidly increasing force of vagrants who rotate each year from coast to coast; we need only to remember the unemployed for whom, during moderate prosperity, it is more and more difficult to procure work, and whose numbers in times of acute crisis in any special branch of industry are appallingly augmented. It is necessary to ponder on these peculiarly modern phenomena alone to become convinced that there is a tremendous industrial misfit between man and job. The two problems have many aspects which are beside the question here, but it is safe to say that the chief cause of chronic unemployment is lack of training for definite work, and that a common cause of acute unem-

ployment is minute specialization. The unintelligent specialist when thrown out of one occupation finds it impossible to turn to any other, and must laboriously acquire a new specialty or lie idle till such time as there is again room for him in his old trade. I have seen a comparatively high-grade worker idle for almost a year, because he was too old to be taken in as a beginner in some other industry. Business is very cruel to the old; it will not waste time sharpening a worn tool when bright, new ones can be had.

The overcrowding and consequent underpaying of the nonindustrial pursuits is another sure sign of maladjustment. For certain manual work it is impossible to find American labor, and were the positions not filled by the ever-arriving immigrant of doubtful capacity, industry would come to a standstill for the want of any helpers, good or poor.

In short, the industrial situation may be summed up as follows: standards of production are open to improvement; employers are finding it difficult to procure intelligent, skilled, resourceful workmen, capable of turning from one branch of a trade to another, and of advancing from less to more skilled positions; an ever-swelling class of unskilled laborers is being created; the num-

THE HAND OF IRON

bers of the unemployed are growing; and many manual tasks would remain undone were it not for the influx of only half-desirable foreigners.

In spite of the fact that we have ridden on the crest of prosperity, in spite of the fact that as a manufacturing country we stand among the first, the far-sighted man will herein detect symptoms of disintegration. Although we are confronted by no such "crisis in apprenticeship" as has destroyed the century-long French preeminence in hand industries, the political scientist may well strive to forestall that conceivable event. As a nation we desire to be self-sufficient: as a people we desire to be strong and intelligent. The dominant factor in our national development we must not neglect. Certain social phenomena of poverty and crime are manifest among us, phenomena which have absorbed the attention of the public to the exclusion of the deeply underlying fact that, living in an age of industry, we have not yet learned how to be wisely industrious. Apprenticeship is a dead letter. Where shall we learn?

III

THE PUBLIC SCHOOL

THE American belief in humanity is embodied in our public schools. Biologists tell us that children are born much more nearly equal than we have dreamed, and that not nature, but starvation has produced the myriad of stunted beings who cumber society with their unprofitable lives. To smelt this crude ore of human possibilities into serviceable gold, we have public schools. The creed our fathers held, when they declared for liberty and equality, is still ours. We believe that all men have a right to be of as much use as they can in the world, and we prove our faith in the perfectibility of all our people by investing in their education.

Therefore the public school labors to open the doors of culture to every child within its jurisdiction. Equality of worldly goods we cannot have; but at least in the schools we shall have democracy of training. An ideal type is held before us as the goal of study—the "all-round man." No undemocratic limitations must be put

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upon the growing boy. His education must be fitted to the highest as well as to the lowest circle in which it can be his lot to move. Therefore early decision upon a future calling is discouraged, lest perchance a Shakespeare should tie himself to carpentry before his genius comes to light. And so, having insecurely bagged that slippery eel, general intelligence, the high school graduate sallies forth upon the world in search of what fate sends his way to do. Unawares that "insecurely" slipped into the sentence. Just as unexpectedly an undemocratic element has crept into education through the would-be democratic effort to keep it the same for all.

Naturally enough, when men first struggled for freedom, it was in the realm of abstract knowledge that they found themselves least bound by the limitations of everyday life. Rich and poor could multiply with the same accuracy and, when polished to the proper brightness, read literature with the same fervor. On this wide common, they could disport themselves untrammeled by the economic facts that sent one to school in broadcloth and the other in shoddy woolen. Mastery of these cultural branches had also been the mark of gentility, and to introduce into popular education everything previously monopolized

by the upper classes was the first step of liberal reformers. Much the same process has been repeated in establishing higher education for women, and, of late, in the education of the negro. Those coveted branches long appropriated by men were studied with avidity to the exclusion of many things important to the well-being of women; and too many a negro, in order to be exactly like the whites, has striven after Latin and Greek to the detriment of his own best interests. As we find conceptions of woman's education calculated to make women resemble men. just so the democracy of the founders of our present generally accepted theory of education seems to have been to elevate "the masses" by recasting them in an "upper-class" mold. Thus the public school is the embodiment, at once, of a democratic attitude toward men, but a most undemocratic view of the social organization.

The result of this experiment is "class education" in our secondary schools. At most, only ten per cent of the pupils of the ward schools go through the high schools. Three fourths of the pupils enrolled in the first year of the high schools drop out before the end of the course. Among those who remain, more than half are girls, and of the typical graduating class the majority either

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go to college or enter professions and commerce. In other words, only those who are destined for professional and commercial life attend the public high schools, or the training given therein fits pupils for and directs them towards professions only. The truth holds much of both hypotheses. Uniformity, always infinitely undemocratic, has, in the methods of our really excellent high schools, proved unfair to an overwhelming majority of our children, who, because they belong in a walk of life for which the secondary schools do not fit them, drop out with the bare rudiments of a general education, long before they are prepared for the intelligent citizenship upon which the security of our government depends.

A glance at the average high school curriculum, from the point of view of the more than seven millions of our citizens who are employed in industrial and manual pursuits, explains the situation. Mathematics and history, science, language and literature meet our eye. But the unlettered laborer looks in vain for something that will make his son a better locksmith or bookbinder, and he ponders deeply on the problem of how his boy can afford to spend four years in the pleasant pursuit of culture, while he himself is waxing old and less able to care for his

family, and may even need support before the boy is in a fair way to make a living. It is snobbish to suppose that the average working parent is not interested in the welfare of his children; that he always sends them to work when the age of compulsory school attendance is over, through selfishness alone. If the poor father has any hope at all, it is usually for his little ones. He will sacrifice much and work early and late that they may have a better chance than he. It is safe to hazard that, next to earning bread for the morrow, there is no subject on which he does more thinking than the future of his children.

The workingman, then, has decided against the high school. An ignorant decision? Perhaps not so altogether philosophical and fine-spun as the one you, intelligent reader, are making by the warmth of your fireside, sunk in an easy-chair, secure of your future, and dallying with this book half quizzically as with a subject that arouses curiosity, but not your vital interest. But he has experienced the hard facts of life, and knows that how to earn a living and earn it well is the paramount question which must be settled before love and happiness and beauty, before life itself can begin. You tell him that if his child remains in school, he will be able to earn more

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in the end than if he goes at once to work and climbs the industrial ladder without further education. You tell him that his boy will be able to turn his hand to many jobs; that he will have more general ability, more chances. But he knows that production demands men who can do some one thing skillfully. He sees that skill is not so easily mastered; and he fears to have his boy lose time which should be devoted to acquiring dexterity that can command a man's wages for him when he is a man. You suggest, again, that if the child stays in school, he will be able to raise himself above the level of manual toil, and will in this field certainly outstrip the untutored applicant for work. Yet perhaps the rough-handed laborer will know how commerce is already over-full of helpers, and how at the skirts of the genteel professions trails a great army of unnecessary, unsuccessful men who hover ever between industry and gentility. crowded from the latter by competition and shut from the other by inclination and unfitness.

Why shut from the other by inclination? Is not the whole atmosphere of the classroom in our high schools anti-industrial? Is not the emphasis ever upon intellectual achievements in the realm of letters and art and abstract science?

Does not the butcher's or the machinist's boy seem to breathe another ether here than in his own home? What use has the school world for the facts of his father's life? What use has his father's life for the facts of the school world? Use enough, if he saw the truth! But he rarely sees it. And does he not naturally infer some innate difference between these two sections of life, and also the superiority of the school world, with its beauty, its wealth of new information, its quick interchange of thought with eager fellow students, and its inspiration from sympathetic teachers glad to foster a growing taste for culture? What do we do to convince pupils that Shakespeare is as much in place on a tinsmith's table as on a jeweler's? What do we do to interest them intelligently in the pursuits at which one half of them must spend their lives, and, as ex-President Roosevelt puts it, to cure them of the idea that to earn twelve dollars a week and call it a "salary" is better than to earn twentyfive dollars and call it "wages"?

Manual training advocates will here slip between the lines the plea that their departments inculcate respect for labor, and that they offer the practical application of theoretical knowledge for which we so loudly clamor. The question is,

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indeed, of great interest at this point in the discussion. The manual training teacher has grasped a great psychological truth; he stands for balance, for purposeful use of the finely adjusted bodily mechanism with which we are endowed. There is a bit of the ancient Greek in his democratic view of personality, of body and mind as an interacting whole. But he too ranks with the "generalists." His work is but practice work, designed to foster an all-round facility of hand, important as a means and fatal as an end.

When manual training was first introduced into high schools, its strictly developmental function in the curriculum was mistaken for practical trade instruction by many parents in a class whose children had not hitherto gone to high school, and a large increase in enrollments followed. But when the public saw that, valuable as the new experiment was and is, it was not the threshold to industry, that an apprenticeship was still imperative before wage-earning could begin, the disproportionate increase in school attendance merged into the normal increase, and the situation remained almost as before. Classes have, indeed, been organized in many schools which prove not only developmental but of immediate practical service, and these classes have

held many a child in school who would otherwise have gone at once to work. In this regard, girls have fared better than boys, for manual training for girls has invariably taken the form of sewing, cooking, or millinery. But these studies, as well as sloyd, electricity, ironwork, and sometimes even the long-established commercial courses, count little in the school credit systems. In this forward step we are again dragging the old ball and chain of wrong emphasis. For while learning should teach us to bring to bear upon our life work "the best that is known and thought in the world," we are still leading too many of our children away from their life work; leading them to suppose that it is really unworthy, by putting it in a secondary position in our courses of study.

For the same reason that so few children enter the high school, many drop out at the end of the first year. The boy, especially, finds the high school course too often unadapted to his wants. In the first place, boys are outnumbered, for since the economic pressure is not yet so great upon girls, they stay longer in school. In three cases out of four, also, the instructors are women. There is no doubt that the influence of women on adolescents is strong and good, but the excessive feminization, too often seen in curricula

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framed by them for pupils, the majority of whom are girls, makes the boy feel awkward and out of place in the program. Because literature is so often taught from a feminine point of view, with which the decidedly non-soulful, normal boy is utterly out of sympathy, he comes to the erroneous conclusion "that it is all rot anyway," and misses the inspiration, the glimpse into a world of keener beauty and the future fund of resource within himself that a manly love of reading should bestow. He becomes restless under the routine of work; he does not see where it is tending; he stops studying, and his school attendance becomes a mere wearisome seat-filling. Or perhaps there is an occasional holy infant who, though uninterested, studies his lessons just to get them, for, being good, he does as he is told and asks no questions. Fortunately this type is rare. You may browbeat girls ad libitum: not all girls, but girls in general. They are of the accommodating sex. Custom and heredity have made them pliable. But the boy is a stiff sort of twig and hard to bend. The mill may grind on; he remains obstinately irreducible, and quits school after a while because he sees "no sense in it," and longs for something "worth while" on which to lavish his young energy.

The author once had in an English class a splendid sort of chap, though crude as yet. One day he came with shining eyes to tell of a wonderful chance to earn sixty dollars a month that had just been offered him, and that looked a glittering independence to a boy whose father had never allowed him any command of money. Except in wood-turning where he led his class, his work took, for the moment, no alluring form. He needed schooling, needed it badly; but I found it hard to answer when he said with sudden penetration, "See here, I know I'm raw and green and use bad grammar off and on. But I'm not doing any good here. Maybe it's my fault, but I can't seem to hitch on, and all I learn in high school won't help me to make more than sixty a month when I begin. It's all right for Dodge and Kelly and those fellows who are going to college or into the law. But dad can't send me to college. I've got to earn my grub right off and I might as well start in." Nothing will hold a boy when independence calls, except the surety of greater profit to himself or a strong personal interest in his work. Both were supplied to "Dodge and Kelly" by their careers. They could refer present dryness to the future for illumination. But our ordinary boy was getting all the

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education he would ever have and naturally demanded that it be worth "more than sixty a month." It is needless to say that sixty dollars a month is an exceptional alternative to further schooling. As Dr. Kingsbury's investigations in Massachusetts prove, an errand or office boy's job is nearer the average. But whatever the bait, and however short'sighted the choice, the motive for leaving school remains the same, and is equally imperious.

The lack of practical interest in high school work is too often intensified by a lack of vitality in teaching, from which the college preparatory student suffers as much as the boy destined for industry. In the same spirit which omits practical branches from the curriculum, the instructor often fails to make constantly the connection between what is taught in school and the actual facts of the children's experience. History gets to be a world shut in between the covers of a book. Physiology and hygiene are something to recite about and not to apply to the ventilation of one's bedroom. Mathematics becomes an abstract juggling with figures. Even literature, that hardest of subjects to kill, falls into the cate-

¹ Susan Myra Kingsbury, of Simmons College, investigator for the Massachusetts Commission on Industrial Education,

gory of things to be learned and not lived, and, instead of opening their eyes to the undreamt wonder of the world, succeeds merely in giving children a positive distaste for books. Against this petrifaction of school work, every instructor fights. Live teachers die hard, if we may put it so. But a huge machine, such as the ward schools of a large city, or the numerous departments in a high school, acquires tremendous momentum. The wheels once started, a course of study once drawn up, the thing moves on irresistibly, flattening out individual method, and conforming all to the preconceived pattern. And still this mechanization, which victimizes, first teachers, then pupils, is necessary in the administration of large scale education. System we must have, only, please God! let us not magnify the system into an end, a something valuable in itself to which our pupils can be sacrificed. M. Brizon has astutely remarked, "It is convenient, no doubt, to have recourse to routine; but the school is not made for the convenience of the masters: it is made for the best development of the varying faculties of the pupils." Yet when the classroom fills five or six times a day with thirty new faces, is it not natural that after draining his energy in the mad attempt to be a hundred and

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fifty people, to understand a hundred and fifty needs and feelings, to lead a hundred and fifty lives, the master will some day fall back into the arms of routine which makes all things plain and easy? Will he not some day, unable to keep in touch with his pupils, begin to teach the course of study for its own sake? Will he not begin to show signs of irritation with the pupils whom it does not fit? Will he not call them dull and stupid, and even end by disregarding them entirely? And will not the children who come from his hand be clipped and trimmed out of originality into uniformity, as like as possible to the Imaginary Pupil for whom too many a course is planned, and who has no more actual existence than the Economic Man of the old economists?

We have ridden our favorite hobby a little aside the question, but not so far that a straight bridle path will not bring us out again on the main track, and set us jogging toward the old point that our expensive high schools are "class" schools whose pupils are drawn largely from one class of society, and which produce solely applicants for that class; and that the boasted democracy of popular education has evolved a system which "prepares for everything in general and nothing in particular."

IV

A SCHOOL FOR THE PLAIN MAN

While pedagogues were arguing behind closed doors the perennial question of the Humanities versus the Modernities, the facts of life, which have an inveterate habit of keeping in advance of thought, came knocking without and crying, "In God's name, open! Dispute no more whether air or water is most necessary to our children's life, but bethink you what meat you will set before them, for they are sore hungry and would eat!" The facts of life and their good friend common sense demand a school for the plain man. Industry no longer trains its workers; and yet they must be trained. M. Astier and his colleagues 1 have struck the sensible and philosophical note with French directness when they maintain that "in our epoch of feverish activity, we cannot leave to routine the task of regulating commercial and industrial operations. Science is the prime factor in all progress." Industry needs not only the scientific knowledge of its great

¹ Astier et Cuminal, L'Enseignement Technique.

directors, but the scientific, understanding spirit of every man along the line.

To foster this spirit is the duty of educational institutions from primer grade to university. The movement toward such an orientation of studies is well begun in our colleges, and schools of this, that, and the other practical branch spring into existence in every state. The link between theory and practice should be drawn even closer. Many of the lower schools also must grow into laboratories of industry where skill of hand and skill of mind are taught and our young folk learn that intelligence and daily living should be synonymous. Then only will the high school ideal be fitted to the demands of our society. Then only shall we supply to the world what the world asks of us - a skilled worker. To beat about the bush no longer, common sense demands trade education.

The voices which stoutly declared that the standard of scholarship was sure to fall when manual training entered school curricula now rise again in lamentation. Prophecy is an uncertain rôle; and an advance verdict as to the influence of trade education on general scholarship may turn out as wide of the mark as the premature fusillade against manual training. But

the writer finds it natural to hope that a salutary reaction on educational methods will follow the establishment of trade high schools.

In the first place, the dominance of the college preparatory ideal, against which so many principals are now struggling, will be permanently broken. In academic high schools, a single eye can be kept upon college as the end of every course, with the conceivable result of a far more thorough college preparation than at present. In the trade school, the child to whom college is a mere disturbing impossibility, will be free to study what he needs. Class education, you say? One sort for the laborer; another for the brain worker? But we agreed that differentiation was essential to democracy, and that no class education could be so disastrous as that invidious species which now masquerades amongst us as "popular." And will it not be infinitely fairer to all concerned when fewer things are studied, but are studied well? When each child gets his due instead of being fed an indigestible mixture of what is good for each? When the college preparatory student need not waste time on sketchy courses he will duplicate later in detail? When the manual worker will not consume costly time stolen from his trade, in mastering branches that

belong to another scheme of life than his? And when the harassed teacher will no longer be distracted by the necessity of basing a general intelligence course on college entrance requirements, and of teaching everything superficially because he must teach enough to meet at some point the needs of every part of his mammoth, heterogeneous class?

Here we may note that trade schools mean smaller classes, and more of that personal relation between teacher and pupil which makes for vividness, originality, and inspiring work, and whose absence is accountable for the impersonal dryness of so much teaching. The Philoctetian howlings of academicians, wounded in their dryas-dust supremacy, must again drop into silence.

Each argument advanced for manual training holds in the case of industrial training with three-fold force. The child is essentially creative and practical. Theoretic teaching needs illustration to have weight with him; and he needs a physical outlet for his ideas. What general manual training adds to the curriculum of an academic school, trade work would contribute in the industrial school, with the advantage of even greater interest and vitality. Even academic education will emerge from an alliance with trade instruc-

tion, strengthened, deepened, and dignified, and will but come more fully to its own.

However the balance of power among scholastic principalities may settle itself after the new invasion, the world at large will reap substantial benefits therefrom. Obviously, larger numbers of children will go through high school, numbers steadily increasing as the profitableness of trade education becomes manifest. Reason would prove the point beyond cavil had we not French experience with actual vocational schools to fall back upon.1 In 1905, the number of secondary schools in France had quadrupled since the recent establishment of professional education; the number of pupils had quintupled. This disproportional increase came almost entirely in the trade courses, which were, as they still are, so utterly inadequate to accommodate the demand that there has always been a long waiting-list. The ratio of graduates to first year enrollment proved correspondingly larger in these practical schools, and the comparatively high percentage of attendance was a sign of the favor the work found in the eyes of children and parents.

This favor is principally due to the greater wage-earning capacity of the trade school grad-

¹ René Leblanc, L'Enseignement Professionnel en France.

uate as compared with the young worker who has spent the same number of years in a shop. Suppose, for instance, that, of two boys who leave the primary school at thirteen, one goes at once to work in a furniture factory and begins to earn money for himself, and the other is sent for three years to the cabinetmakers' school. The young apprentice twits his comrade over the latter's dependence, while he, young lordling of his franc or two a day, has money to spend. After a while, the other boy graduates from trade school and comes to work in the same shop with his friend. At first, he is a little slow and wasteful, not being used to the rush of competitive production and the economies of business. His wages, in the beginning, are lower than those of the more adroit apprentice, who twits him further on having been three years at school to learn a trade which he cannot practice so well as one who never had a day's more schooling than the law requires. But at the end of a year, the young graduate has caught up with trade conditions. He shows a remarkable intelligence and adaptability. He has ideas for this and that bit of decoration. A fellow workman is sick and it develops that he can take the place, not so well as a skilled hand, but far better than the average apprentice. He is val-

uable to the shop and forges ahead, till, of a sudden, the once scornful friend wakes up to the fact that he has been left far behind in the race for advancement, and that, while his own wages remain at much the same level, those of the trade school graduate are already in advance and show every prospect of further rise. The purchasing power of money is too different in France and America to make actual figures illuminating, but the gist of many tables is embodied in this suppositious instance.¹

The superior workmanship betokened by greater wage-earning capacity is explained by comparing the training these two boys received. One was started and kept at work on some simple, easily acquired process, which he will go on performing for the rest of his days. The other has not only sharpened his wits by general instruction, but studied his trade in all its bearings. He learned to know a dozen implements instead of one; to understand a dozen operations. He followed the product from its inception in the mind of the designer to its completion and transfer to the school salesroom. He designed himself almost everything which came from his hand, and took

¹ For items see Pierre Brizon, L'apprentissage and the reports of the French Minister of Education,

that pride in the material expression of his own ideas that leads more surely than any other motive to care and finish. Making a piece of furniture is more to him than a boresome stint to be done before coveted francs can be acquired. He has a personal, intelligent interest in his task. He can take hold of a new process with ready comprehension, and, when thrown out of work in one branch of the trade, he can fall back upon another. He is independent and destined to rise in his profession, just as surely as the average untrained worker is nailed to his first, poorly paid job, and so swells the class of the permanently unskilled who crowd the market and lower wages in good times, and in seasons of depression form that menacing, hungering army of the unemployed.

Perhaps French workers may not have perceived all this; but they have seen beyond a doubt that, because he can produce at once upon entering the shop, it is easy for the trade school graduate to get a job. No time need be wasted in breaking him in, for, in spite of his faults, he is not raw; and though the verdict of employers is far from unanimous in all details, the consensus of opinion is that, if the trade school graduate adapts himself to actual industrial conditions,

he makes up for early lack of dexterity and, in the end, far outstrips all his competitors. German opinion has already crystallized into legislation which renders industrial training obligatory, and in our own country many a scattering proof of the employer's recognition of its value is given by half-time classes for apprentices.

Of course not every trade school graduate achieves complete success, for there is no magic in industrial training that can develop inferior endowments to a high level of efficiency. Heredity may be molded, but not eradicated. Yet the child of mean ability may perhaps receive from such education the greatest proportional benefit. As mental defectives are awakened through concrete manual exercises, so the pupil of limited capacity may be roused by practical instruction to make the most of himself, and thus escape the failure that awaits undisciplined mediocrity.

Trade education is not a paying investment for the individual only. "In the international struggle for commercial supremacy the balance must tip in favor of the land whose workers are most skillful and intelligent." With our toilers lies the standard of national handicraft. It lies with them to support this standard against foreign labor at home and abroad. Not all the tariff bulwarks in

the world can forever protect us against the encroachments of superior production. Dam the currents of industry as we will, they set inevitably toward quality. Germany has stolen the French market out of the very lap of protection. How gloriously "fit" must a nation be which can look forward to free trade, as many a wise judge of things maintains America is doing! How sinewy in every limb, firm knit for the race, steady-eved, bold-hearted, with no load of incompetence upon her shoulders! Such a load, alas! we shall carry so long as the sins of Europe are visited upon us by unchecked immigration and so long as we grind men and women to a worse semblance of things unhuman in our own factories, and make no effort to counteract by schooling the benumbing effects of unenlightened toil.

No little contribution toward our national prosperity will be that content with manual labor which should come from viewing it in school as a worthy end of intellectual study. Much slipshod service is now rendered by persons who look upon manual work as a mere stepping-stone to something else, or as a makeshift for those who fail of rising higher. Woman's temporizing position in industry half explains her lower wages, and many a man fails of success because he gives inferior

execution to what he deems inferior work. Manual labor is not a coil to be shuffled off at the first opportunity, but something that will remain with us always until we cease to need our bodies for other than vegetative purposes and become, as some pessimistic magazine scribbler has predicted, a degenerate human barnacle on the machinery by which we live. Rather than this, let us set all our writers plowing; our Rothschilds and Carnegies to hoeing beans; and put fire to offices, libraries, schools, and the whole paraphernalia of finance and culture. There will always be work for hands to do, and the public welfare demands that the men who perform it be as manful as any other. Here, as elsewhere, we can afford to have no contemptuous slovens.

To usher the young person into active life, equipped with the wherewithal to live, concerns not merely the economic efficiency of our workers; not merely the quality of production; not merely our national supremacy in trade. It concerns the moral integrity of our people. Whenever the corner stone of a new reform school is laid, the gods must ask each other laughingly, "How many more Elmiras will it take to show these mortals that one trade school is worth six reformatories?" Human interest is a crab which, crawling back-

ward, makes many a false start before it gains its end. Just now, it has taken a long look at crime, seen something very real and true about its causes, and, whirling round back end toward the goal of righteousness, has begun plowing away with terrific kickings and much flying-off of industrial sand and pebbles. But where is the queer fish coming out? At the reformation of an ever-recruited band of criminals! When a man has sinned, we see clearly the whys and wherefores; see that most men fall into crime because they cannot make an honest living; 1 resolve to teach the poor souls a trade; hurry them off to an Elmira in order to do it, and send them forth in seventy-four cases out of a hundred, completely reformed, with habits of application and a steady job. "A fine work!" says humanity; "a noble, inspiring work!" A noble work it is, and its best results will have been attained when the public has the genius - or common sense—to infer: if lack of a trade, if distaste for work, if habits of shiftlessness, bring a man to crime, why not teach a trade, why not give love for work, why not inculcate industry before the man becomes a criminal, and thereby save him and society the cost of sin? The

Only two per cent of criminals in Massachusetts prisons have a trade.

criminal is a misfit. Alter him if you conveniently can, but cut out no more men on that pattern. Nay; alter the pattern, if you must let the misfits go. The still unspoiled stuff of humanity is your paramount concern. Leave over patching and darning ragged individuals, and bethink you how you will save the whole ones from tatters. To keep the normal individual normal, this is the problem of the social worker.

"Everything," a witty lady once remarked, - "everything is done for ragamuffins, but my ordinary little boy has to struggle along as best he can." When we have learned to do for the ordinarily good and bright boy what we do, too late, for truant Jim and pilfering Joe, we shall find more than one probation officer drawing better pay at another job. The child now comes out of school at a critical age. Child labor laws may, at first, keep him out of work, or the circumstances of his parents, coupled with lack of interest in any definite occupation, may lead him to idle away his most formative years. His youth1 condemns him at best to juvenile pursuits where employment is unsteady and the ever-shifting environment conduces to anything but applica-

¹ Boys are not wanted in skilled industries till they are sixteen. Massachusetts Commission on Industrial Training.

tion and firmness of character. If he lives in the city, he is subject to a thousand rapidly multiplying temptations. He is released from the discipline of the school and at the same time begins to have less respect for home restraints. Parents assume a different attitude toward him when he becomes a bread-winner. He has practically no guidance, and the large increase in recent years in child criminality proves that he has often fallen a victim to his adventurous inexperience.

The case against child labor is too long and too well understood to bear repeating. Every one knows how much more heavily the strain of overwork tells upon children than upon adults. All need repose to repair waste tissue and expel the poison of fatigue. But the child must not only repair: he must build new tissue. No wonder that the growing boy or girl, confined for a long, hard day in a factory, falls speedily a prey to nervous and gastric troubles. No wonder his growth and intelligence are stunted, for the food which he consumes, the energy which generates within him, must go into work and systemic repairs, instead of into building new muscle and brain cells. In spite of all our knowledge and conviction, however, child labor laws fail of en-

forcement for lack of complementary measures. But compulsory education, especially if extended beyond the grades, will never be effective until parents recognize that going to school is more profitable than immediate work. Until that time will they evade the law; and until children can actually gain increased wage-earning capacity in the school, it will be an open question whether we can claim the right of compelling their attendance. How much more must this be true if school unfits them for their proper task!

The social advantages of sojourn in the trade school are not merely negative. Watch a roomful of children engaged in some practical work. How bright and eager they are! They are having a good time, as children have a right to do, even in school. The pleasure which children take in the practical part of their work spills over onto the rest of the course. They see the "hang of things" better. Their mathematics, drawing, and history have an obvious use - also less obvious ones of which they do not dream, but which function quietly and surely. Unconsciously during the years while the child is learning his trade, he is developing inner resources of culture. He gets into his mind something to fill it in leisure moments, something to think about. Perhaps he

learns in English class to love reading, a durable treasure that will last his lifetime. Not his the helpless, spoiled-baby type of mind which waits blankly to be entertained. He can amuse himself, and needs no tawdry picture show or corner saloon for recreation. His life is no longer flat and monotonous. His work is no longer deadening. He knows his machine as well as his work. He knows his materials, and as he toils mechanically, perhaps his mind follows them back to the mine or the jungles of the Amazon. Lives have been spent to get them; life is spent to shape them. And when the factory has done with them, they will go here and there over the world, to pay life back for what they cost. He understands the whole process of manufacture in his shop, and labors, not as a blind piston in the engine, but as a co-worker toward an intelligible end. Not mere dead wood and iron, but something live and real and interesting is passing through his hands; something stimulating withal. He is master of his tool, master of the iron hand; and work becomes exhilarating. All of which is most fantastic, says the hardhead. Will the fellow make better nails for such untimely ruminations? Certainly no worse ones; the business of nail-making leaving a great deal

of room for thought, room better filled with fantasy than with mere echoes of hammering.

Place in our times for fantasy there surely is; place for what is better and deeper - imagination. There is, indeed, something ill-nourished in the aspect of modern life, an insipidity, a monotony of design, a thinness of texture in the tapestry which bespeaks weavers of meager soul. The richness of perception, the spontaneous joy in nature, the freshness of mind and heart, the bubbling, blossoming fullness of life wrought into the naïve scenes of an antique arras across which the Lady, the Lion, and the Unicorn move nobly and gayly through meadows full of stiffly growing flowers and wee frisking animals; the bountiful heaping-up of beauty in the wreathed frames of fruit and blossom which encircle the madonnas of Della Robbia; the splendid lavishness of thought displayed in the tracery of a slim sword hilt from old Florence, —where does this find a counterpart among the products of our tradespeople?

Of course a great deal of sentimental whimpering about the "good old times" has been done by pseudo-historical folk. Even a sturdy spirit like William Morris fell to dreaming over a golden age of England which was, in reality, leaden

enough. But all these plaints contain a kernel of justice. In the study of past ages, we look upon the oases and reclaimed land of character. That certain tracts were once desert is not the terrible thing, but that a tract, once fertile, should fall desert again. And in the light of the Italian Renaissance; indeed, to go no further back than our own day, in the light of the greater "resourcefulness" of continental as compared with American environments, our daily life and all its adjuncts smack dull and flat. The toiler must needs season his existence with the acrid vinegar of dissipation, lurid theatres, and yellow journalism. We sadly need to dream a bit at our work; to vivify our common round. Nowadays, in every circle, we live in low relief. From Singapore to Paris, we wear the same cut of clothes, the same cut of thoughts. Ideas flatten themselves out thin as they diffuse over the globe. Convictions lose their depth and crispness. Even progressive Professor Royce, of Harvard, bewails the passing of provincialism with the rich and stimulating variety of mind and manners it insures. Uniformity, the world-old bugbear, has stepped out of the cosmic closet to rattle its dry bones amongst us, and the whirring of factories is but music for its dancing.

Against the leveling and numbing influence of industry, at least, the trade school would fight. Among men whose surroundings have stolen from them the right to even common thoughts, the trade school would work for a vast spiritual enrichment. In relation to their work, this deepening of experience would be greatest. Though trade instruction could not break down the thick walls of specialization, could not bring the man into closer physical relation to the finished product of his toil, it could tie him to it by a firm bond of understanding. It would open up to him a world of thought where he dreamed no thought existed. It would interest him in a world of homely things which now he deems unworthy of his interest, in stocks and stones and bars of steel. And it would teach him to express himself in these materials of industry, putting into them the fancy, the feeling, the loving care which would make our articles of commerce justify their etymology by being truly things of beauty, "bits of art."

V

TRADE EDUCATION AND THE WOMAN

THE great question mark with which to-day punctuates many an ancient usage is largest and blackest after the word woman. "The Woman Problem," "The Family," "The Economic Dependence of Woman" are expressions which stand daily in the press, which fall daily from the lips of preachers and lecturers; and the increasing urgency of the cry, "Votes for Women," proves that some readjustment is necessary if balance amid present unrest is to be preserved.

Discussion of the woman question rages hottest about the point which links it to our subject of trade education. What the woman's rights advocate calls the economic dependence of female on male, or, in simple terms, the fact that the average girl must marry to make a living, is said to have caused the age-long subjection of woman to man. Just as the monopolist employer can definitely fix living conditions for the workers in his trade, so have men, since the beginning of time, ordered matrimony and the life of woman after

their own liking. To keep women docile in their semi-slavery, their development as individuals has been subintentionally retarded by their masters. Now, however, that education has penetrated the feminine ranks, discontent breaks forth. The history of all slave rebellions repeats itself. Women have come into greater knowledge and are demanding freedom. Against this wall between woman and freedom, the efforts of reformers batter with deadliest energy. To hang no longer on a future husband for a livelihood has seemed to the harassed and downtrodden female the open sesame to self-respect and liberty. But economic dependence of some sort she can never escape. Every one, whether man or woman, is economically dependent, - on an employer, on a corporation, on consumers, or on the general public. The real point of difficulty is that in woman's legitimate trade, progress has been barred. The homemaker, housekeeper, and mother often lose touch with the currents of contemporary life and fail completely of being "human beings" because all their effort and time are consumed in laboriously performing the operations of their trade in the same unsystematic, wasteful manner in use in the Middle Ages. Because of this failure of the household to keep pace with general

industrial and social development, women have begun to find it too restrictive. They recognize that they are being cut off from fullness of experience by so-called home duties, and are refusing, in many cases, to enter an unprogressive employment whose ante-diluvian methods of work kill personality and efficiency at once.

Of course the question is infinitely more complicated than the above statement would imply, just as life is deeper than the outline drawings whereby we explain its forms. A psychological factor has helped to keep housekeeping a rudimentary social organ, and to prevent woman from escaping out of this atrophying business into any other. Nature combined with the selfishness of men in this regard. It is natural for a woman to be a mother, and she is willing to make a great many sacrifices to secure this end. But when at last she awakened to a recognition of the fact that her sacrifices were unfitting her for motherhood; when she saw that by remaining a household slave, chained forever to the unskilled work of a slave, she was thereby sacrificing her children as well as herself, then woman felt no longer her previous satisfaction in motherhood at all costs. She began to remember, like Ibsen's Nora, that first of all she was a human

being with the right and the duty of life. She perceived that to be fully human preceded all functions, however proper, which belong to a human being. "This business of motherhood can wait till I am fit for it," she thought. "First, I must breathe and move and think as becomes a woman and not a drudge. Drudge in mind and body? Drudge and mother? The terms are mutually exclusive! I will set about escaping drudgery."

Set about it she has and in deadly earnest. She has gone to work in industry where she expects to be treated as a twentieth-century individual. The domestic servant is withdrawing her protection against kitchen work. Woman forms trade unions and battles manfully for justice. She organizes women's clubs. She agitates for the ballot.

Not all of her methods are so praiseworthy. She escapes marital obligations by divorce. She avoids bearing children. She avoids marriage altogether, or, once married, manages her home so poorly that it might as well not exist: witness the mere fact that in New York City the largest percentage of undernourished school-children come from moderately well-to-do families 1; and witness also the number of incorrigible children voluntarily

¹ Investigation by the Board of Health, 1907.

surrendered to our juvenile courts by respectable parents.

Thus the lack of progressive intelligence in homekeeping has had the twofold result of driving the woman out of the home in protest against its narrowness, and of frequently making the home and the family institution, as we know it, a failure. But if, as we hear nowadays ad nauseam, the family is the essential social unit; then it is not against marriage, not against that economic dependence of women which has been so cruelly exploited, that the fundamental reformer must struggle. Family life needs modernization. The present industrial employment and the continued unmarried state of so many women may be viewed as an unorganized strike against the injurious labor conditions in their proper trade. It is a necessary protest against wrong - but, a temporary condition which will pass away when right is once established.

The integrity of the family depends, first, upon modifying the form of the institution to allow woman human freedom, and, second, upon recognition of the fact that family life is a fit scene for the play of intelligence. Woman's education should be designed "not to lead her permanently away from the home, but to teach her

how to bring the best from the outside world into the home." The first step is the mechanical one—to bring homekeeping methods up to date, and so leave the mother a little leisure for life contacts.

Here is the mission of the domestic science courses for girls. Housework need be drudgery no longer when intelligence and system are introduced into it. The application of scientific study to domestic economy may perhaps do for the whole industry the same thing which science has done for every other line of modern business. Perhaps much of the purely mechanical work will be taken over by machinery or by special agencies. "Where one woman now uses a potato-parer, meat-grinder, bread-maker, biscuit-ringer, automatic cleaner, dish-washer or washing-machine, instead of the simple knives, choppers, breadboards, irons, brooms, pans, washboards, and human hands of our forefathers, every household will boast these conveniences and many another." Perhaps we may come to the conclusion that for a woman in every kitchen in every dwelling in every block in a city street to spend the same hour performing an operation, which one of them could perform for the whole block by means of a simple machine, is an unwarrantable waste of

time, strength, and mentality. The thought of a dozen women steaming and stewing over a dozen dinners which could, in many respects, be better cooked by one alone, may drive us to coöperative housekeeping of some hitherto unheard-of kind. One hesitates to predict what the future will bring forth in a field so hedged about with thorny prejudice and with real difficulties. But that some simplification of housework must take place is so certain that the particular form may safely be left for the specialist to discover.

Mere simplification is not enough: we must persuade woman that housekeeping is interesting. Women have been trying to escape from housework because they see in it no scope for the imagination. When the drudgery is obsolete and housekeeping is recognized and taught as a science, the four walls of a home will no longer be a prison for the ambitious wife, but a laboratory to which she brings for testing all the most progressive thought of the world.

It is not in the sphere of domestic economy alone that the trained woman will find room for deepest study. The education of her children can much less afford to be haphazard than the ordering of her kitchen. The illuminating distinction between efficiency and passive goodness is no-

where better shown than among mothers. How many little monsters grow up under the care of merely "good women"! How many weaklings! How many stunted natures! When Hamlet asks the prying emissaries of his uncle to play upon a recorder, Guildenstern replies, "Believe me, I cannot. I know no touch of it, my lord. I have not the skill."

Then Hamlet: "Why, look you now, how unworthy a thing you make of me! You would play upon me, you would seem to know my stops, you would pluck out the heart of my mystery, you would sound me from my lowest note to the top of my compass; and there is much music, excellent voice, in this little organ, yet cannot you make it speak! 'Sblood! do you think that I am easier to be played on than a pipe?"

No one would dream of trying so simple a thing as piano playing without practice, but to nourish costly human bodies, to build a precious human life—for this, instinct must suffice. Mother love may be omnipotent in romantic fiction, but it will never tell the ignorant woman to scald her baby's milk bottle unless she knows the dangers of unscalded bottles; and all the fondness in the world, and even all the old-fashioned skill at making individual dishes, will not tell her how

to set a nourishing meal before her children unless she knows something of the ingredients of food and the chemical needs of the body. If a teacher must study for years to instruct the child an hour a day in some limited subject, how much more careful training must the person require who is to control the child during its earliest and most formative years, give it character, and mold its whole attitude toward life? The realms of psychology, philosophy, history, literature, biology, and hygiene must be exhausted to give the growing child his due. No mere grown-up knowledge of these subjects will suffice. The principles of child growth and of child pyschology must be conned by the mother no less carefully than by the teacher. She must know the material with which she works: know its laws. She must be an expert, for no race was ever greater than its mothers.

New York City has at length discovered that more than love is needed in rearing children, and has not only instituted courses for young mothers, but sends a nurse into tenement houses, where a new baby has come, to instruct the mother by word and example as to its proper care. Would it not save public expense as well as babies to give this training earlier and to every

woman? I know it is the practice in some circles to scoff at mothers' classes and mothers' clubs. Like alchemists of old before science reached a solid basis, many members of mothers' clubs try not a few ludicrous and fantastic experiments. But the greenness of their wisdom is not the important thing. It is a hopeful sign that they have begun to think about the question at all.

You mother who never punished your child unjustly in anger and so undermined his respect for your judgment and authority — I do not write for you. You other mother who never humored the baby at your breast and lost him forever, or during years of bitter struggle, that great gift of self-control, you too have, perhaps, been intelligent without set instruction in the mysteries of human growth. But how many of us are intelligent? Do not think of yourself, O reader who were born wise! but of Mrs. X, who has just left the room, and who, we all know, was born foolish and yet accepts with easy-going complacency the responsibility of children up to any number the "Lord may provide."

Are the domestic science and motherhood courses the only trade instruction desirable for girls? What will be the effect on them of business and industrial training? Will this tend

merely to increase the army of single women, to entrench woman more firmly in every form of industry and make her so contented in her selfsupporting existence that she will be slow to exchange her freedom for the necessary dependence and limitations of a child-bearing woman? The answer is yes and no! Fortunately the author has no wish to dogmatize as to particular methods in a case where so little experimentation has been done. It is possible that the practice of housekeeping will so evolve that all women need not cook and sew just because they are women. This question of the woman in industry is a difficulty which must be frankly acknowledged. It is well that women are able to support themselves. Many a rash marriage, many an uncongenial one is prevented by the independence with which a wage-earning woman can await her happiness. Women also find in pre-marital years of wage-earning, a disciplinary training in orderly, methodical habits which is invaluable to a future wife and mother whose autocratic position in the household might tempt her to unsystematic work. "It is noticeable," says Helen Bosanquet,1 "that girls who are engaged in skilled industries are better fitted for their home duties afterwards

¹ Helen Bosanquet, The Family.

than girls engaged in rough and unskilled work." And surely better fitted than untrained girls previously occupied at nothing!

Yet the hard-headed man sometimes objects that a program for thorough trade education may suit boys, who are a stable industrial factor, but that it is useless to teach a girl her whole trade, because she so seldom needs it. The question is more than economic; such instruction trains her mind to unified thinking—a habit surely priceless whether the concrete problems of her trade are of further use to her or not.

Viewed, however, from the economic side, the question of the woman in industry is seen to be more than training for a brief business career to be terminated by marriage. It is roughly estimated that at least fifty per cent of women workers are over twenty-five years of age. This indicates five to ten years previously spent in wage-earning, and suggests that no small proportion of this fifty per cent will continue indefinitely self-supporting. For these women life presents a masculine problem, and the trades upon which their future safety and comfort depend must be taught well at all hazards, even if time forces the sacrifice of strictly feminine branches. Better do well one thing and that the most ur-

gent, than half perform two tasks, however important the second may appear. The principles laid down in this chapter stand as our ideal; but education, like politics, must be wisely opportunist. We cannot deny the fact that many women are engaged not in their natural trade, but in a multitude of industrial and mercantile pursuits; and common sense demands that schooling should prepare them unequivocally for what they do instead of for what some one may think they ought to do.

Even the girl to whom industry is but a temporary means of livelihood presents a more complicated problem than that of her own personal welfare. From the Kansas City Labor Herald we quote a union man's opinion that, "When we consider the fact that the average time worked by a woman or girl is computed as five years, it is easy to see that a long apprenticeship cannot be served, and any school training which will assist her to earlier efficiency must be favorably received by us." May not the industrial transient be worth training for the sake of those with whose wages she competes? Not industry alone would profit by the greater capacity of its women workers which would follow the opening of trade schools for girls. Every worker, man or woman,

would profit thereby, for at present the most ruinous competition with which skilled labor meets is the cheap unskilled labor of women. Because they are untrained, women can command only the lowest wages; because they are untrained, they fall quickly into cheap specialties and do not raise their wages; because they are untrained in mind as well as in hand, their trade union organizations are not usually compact enough for power; and because they often take a temporizing view of labor, which no instruction overcomes by interest in the thing itself, they care little about self-improvement and are so uncertain a factor in industry that their lower wage is explained if not excused from the employer's point of view.

From whatever standpoint we survey the matter, it presents one unchanging aspect. That women are in industry to stay—as a class if not as individuals—seems an established fact. And so long as they are in industry, they deserve as adequate training for their tasks as men.

Two other arguments for vocational training of women (whether domestic or industrial) force themselves upon our notice. As has been said in another connection, trade schools ought to secure a respectful attitude toward work. If more of our young women took some personal interest in

housework; if more of them were trained to manage a house economically and even to do the work well and expeditiously themselves, they would be willing and able to marry on less and begin more simply than many a young person now thinks of doing in some walks of life. Thus perhaps some of the justly deplored late marriages, with their correspondingly decreased birth rate, might be avoided. Our ethical concept has in this case gone in advance of the biological evolution. We must not try to force it too far ahead, or nature will pull us up short rein by some signal warning.

The problem of late marriage is bound up closely with a still graver question upon which trade education should have an even deeper and better influence—that travesty of marriage, prostitution. Prostitution is a survival of primitive polygamy and later concubinage, monogamy as a type having been slow of development, being still, indeed, far from perfectly developed in human ideals and conduct. And modern social organization impedes its development in many ways; nay, almost inevitably prolongs the barbaric system amongst us.

How?

Prostitutes may be classified as: (1) Naturally depraved; (2) girls who have been betrayed and

left helpless; (3) girls who have a strong distaste for work; (4) girls who, through inefficiency or underpay, cannot earn by legitimate means enough to live. The last groups are larger than one likes to think, because their sin is so manifestly the fault of the society which has allowed them to grow up untrained in the matters whereon their life and safety depend, and which purchases its luxuries a little cheaper by the sacrifice of some underpaid sales-clerk, sewing-woman, or factory girl.

Before these unfortunates have drifted to wreck on the shores of our city life, the trade school will come to their aid. The indolent girl who despises labor will there learn that work is honorable, and will conceive an intelligent interest in some worthy pursuit. The inefficient girl may acquire industrious, regular habits and become able to earn her livelihood. If she has an excitable, unsteady temperament, application to practical work should give her better poise and at least some permanent interest to counterbalance her fever for excitement. It is the old question of prevention or cure; trade or reform schools. The young learner would find her dangerous period of almost unremunerative apprenticeship materially shortened by attendance upon a trade continuation school, because, when working and

studying simultaneously, she could forge ahead more rapidly toward the point where earnings and expenditures balance. For the woman who is so underpaid that she cannot live or cannot dress in accordance with the requirements of her trade, or whose average salary gives her no chance for the recreation and pleasure which a healthy nature craves, there are only two lines of hope: selfhelp through trade union organization, and public opinion which shall refuse to patronize business concerns that underpay their women. For trade union action, intelligent workers are required. We have, alas! no quicker nostrum for the creation of that social sense in which all prostitutes will find their chief salvation than slow education of the public to a better understanding of the dangers and terrors of this evil which menaces not merely the health, happiness, and morality of a fraction of our women, but the whole future stamina of our race. But we maintain that, in the present state of chaos and difficulty, the Vocational School will be a great help and a powerful deterrent for the girl whom unguided circumstance now throws into the undertow of civilization, since it will give every girl an honorable pride in independence and the ability to keep herself independent.

VI

IN THE COUNTRY

"Agriculture underlies all industries and draws upon all sciences." — WICKSON.1

In the preceding chapters we have spoken of the seven million or more persons who are engaged in American industry. There is an even larger class for whom the vocational school would be invaluable—the farmers. One third of our population still lives upon the land; and many more than the ten and a half million agricultural workers enumerated by the last census can and will sooner or later turn to the country for support.

But in spite of this preponderance of rural population, our civilization is distinctly metropolitan. The current of modern improvement has served to draw country districts nearer and nearer the city. The city, on the other hand, overflows its suburbs and covers the country with a thin metropolitan veneer. This is inimical to the growth of a healthy country life rooted in

¹ Mr. Wickson in Cyclopedia of American Agriculture.

the soil and drawing therefrom spirit and sustenance, for, in fact as in fiction, there is a genuine pastoral element, which has its own laws of development, and which is too precious to smother under any city-made mantle of progress.

The disappointing inapplicability of our long cherished idyllic theory of country life to the bare, hard round of drudgery which its reality discloses, has helped to retard our appreciation of this element. Probably there is no more fruitful field for social work than the village, particularly the old established village. The human stock needs replenishing. Existence is stagnation. There is no society - how can there be where there is no continual supply of fresh interests to interchange? - and since the schooling of the average country child stops early, he never acquires those inward resources which solitude demands. Owing also to this lack of education, country districts resent innovation, and are slow to improve their methods of work and conditions of living.

The youth and energy of the country has found the path of least resistance to be quitting rather than reconstructing country life. Thus we have seen in the last fifty years an exodus

cityward, and westward, which has produced the twofold result of city congestion and under-development of rural resources. This exodus has been stimulated by educational ideals as well as by economic pressure. Little has been done by the schools to make farming seem an opportunity for ambition and talent. Few educational and cultural advantages have been available for the farmer, whereas the city is in itself a liberal education. The largeness of urban life has seemed intimately bound up with its superior business opportunities. The introduction of farm machinery, and the factory production of much which was formerly made in the household, has greatly reduced the demand for country labor; hired help find their uncertain and at best unsteady employment more and more unsatisfactory and are easily tempted to the comparatively sure and continuous work of industry. Because of discriminative transportation rates to larger centers, industry has left the small towns, removing not only the demand for workmen, but also the market for farm products, to the distant city. With this decline in the home market, the less desirable land can no longer compete with fertile regions, and many farms in New England. New York, and even Ohio, have been aban-

doned. The farmer has either gone to the city, or pushed westward where land is new, cheap, and more plentiful, and intensive methods are not yet necessary in order to produce a crop. But now that our new territory is taken up, while at the same time our population steadily increases and a larger food supply is daily becoming necessary, we must expect a change. Much abandoned land will again be brought under cultivation, much exhausted land will be reënriched, and more careful, scientific agriculture will develop.

Education is already paving the way to the reconstruction of farming methods, but education has as yet touched only the overseer, the gentleman farmer. As Dean David Kinley puts it, education is lifting farming from the grade of manual labor to that of a technical calling or profession. Schools of agriculture are gradually raising their standards of admission until academically they stand or expect to stand on the same level with engineering colleges. With such institutions this discussion is not concerned. We stand for the plain man; the average workman, the average small farmer or even farm hand. He too needs training if agriculture is to form a trustworthy substructure for our industrial civilization.

Neglecting to train our farmers means as basic and certain a destruction of natural resources and reduction of national prosperity as the demolition of every forest. The soil is our fundamental support. We are its creatures; our factories are busy with its products; indeed, human life is little more than shaping what the soil supplies us in a formless state. Who is the keeper of this life-giving mother earth? The farmer. And what have we done to make sure that he will not kill the goose that lays our golden egg? We have a habit of educating those who perform the secondary human functions; but the vital primary ones are left entirely to untutored impulse.

The nature of farm work renders special training for it imperative. Though the division between labor and capital is at length asserting itself in this field, the farmer's work is usually self-directed and unspecialized. Upon one man depends the success of many acres. He must understand trade upon trade, drawing from all the sciences alike, sending out ramifications into every department of knowledge. An acquaintance with local soil and climate and their bearing on crop raising; with the chemistry of soil and crops; with ways of preventing depletion of the soil through exhaus-

tion and erosion; with the principles of drainage and irrigation, and of animal and plant physiology, care and breeding; with the pests and diseases which attack vegetation and the methods of fighting them, —these are but a few things upon which the successful farmer or even intelligent farm worker can scarcely afford to be ignorant. Yet all of these are topics for which widely diversified instruction is necessary, topics whose frontier of knowledge is rapidly advancing and for which no hereditary or legendary information can suffice. Finally, successful farming demands a far-seeing and daring mind. The saving from a larger outlay which may increase the net profits in far greater proportion is a subject upon which the untrained rustic is hard to convince. Perhaps even more difficult to understand is the point where the law of diminishing returns becomes operative, the point beyond which intensive methods do not bring a paying return.

"The increasing capitalization of agriculture necessary to secure the greatest long-run profits is putting agriculture more and more into the hands of educated men of means. Capitalization always places a premium upon intelligence," is the dictum of Dean Davenport. Unless we educate all farmers instead of merely those gentle-

men farmers who find their way to our colleges and universities, the inevitable development we have already witnessed in industry may also be expected in farming; and we may anticipate a twentieth-century feudalism in land ownership and the rise of an agrarian proletariat. In manipulating this proletarian labor, those same problems which now obtrude themselves in connection with unskilled industrial labor may be expected to present themselves.

That we may forestall such a consummation; that we may never come to carry such a burden of agrarian as of industrial incompetence; that the national farming resources may be most fully and conservatively developed; and that the extravagant exhaustion of our fertile soil by unenlightened cultivation may no longer continue, the United States needs some systematic agricultural education which shall reach every rural inhabitant.

It is difficult to determine what form of agricultural training should be introduced into country schools, but certain principles to govern such instruction may safely be predicated. Professor Earle Barnes makes a suggestive distinction between educative and uneducative work. "Work ceases to be educative when we have mastered

it completely, when its processes have become purely reflex and it ceases to engage our thought." It is not alone mechanical work, such as that of the ticket chopper, which soon loses all educative value. Any task in which the worker does not continually find new outlooks widening before him, in which he does not every day readjust his mental viewpoint to meet some new contingency, in which (to borrow from nature an expression of the perfect adaptation to environment which precludes further progress) he vegetates — any such task is not merely uneducative but stultifying as well. Work may become uneducative without being thoroughly mastered if its thought possibilities are undeveloped by the worker; and it is just here that the country schools must strive for the uplift of rural intelligence. The "hay-seed" is not a hay-seed because he comes from the country, but because humanly, intellectually, he has vegetated and gone to seed.

To open up to the farm population the cultural value of their work is the first object of the country school; and this can be done only by giving rural education a new direction and altering its ideal. The same subjects may be taught, but they will be taught in terms of the country.

The grammar grades should most emphatically not attempt to give training in general farming methods or in agricultural theory. Children are interested in concrete vital phenomena, not in laws, and nature study should be used to excite the intelligent interest of the pupils in the life about them. But the manual training for these elementary grades might have a local and practical bearing. In place of the purely formal exercises so common in schoolrooms, the class might draw subject-matter from practical problems of the farm, and build fences, drains, and roadways instead of constructing useless wood, paper, or metal objects. The school-garden is an infinite resource; and could be made practical by selecting for successive years the different crops suitable to the locality.

In addition to freshening the grammar grades in country schools with a breath of the woods and hills, and with the scent of good red earth; in addition to turning the child's mind toward the beauty and wonder of the natural world, we must also give him special training for his life work. This will begin in the high school.

This school must of course offer general academic branches, as these are the prerequisites of farming intelligence. But in addition to this

general information and mental drill, the agricultural problems of the locality should be covered. As Liberty Hyde Bailey justly declares, the country high school must not attempt to do superficially what the college does exhaustively. Let it eschew broad and theoretic surveys and do thorough work on definite, significant local problems.

In both grammar and high schools, also, various academic branches can be given a distinctly vocational turn without detracting from their value as mind trainers or sources of information. Geography, like charity, may well begin at home; the farm, village, township, county, state, nation, and continent seems a logical order of study. Map drawing would in this way assume a wonderful vitality by having a basis in visible things. In geography, as it is often taught, we see the grown-up impulse to present a subject analytically, symmetrically. But the natural progress of child thought is from the known to the unknown. Comprehensive unity the child cannot appreciate; but coherence of the new with the familiar is needed to maintain interest. Arithmetic can easily deal with farm problems. Choice of reading, too, is a fruitful field. Why should not the English course include books which

bring out the wealth of rural life?—not books that sentimentalize over the country; pupils will be quick to detect the false and artificial note,—but those which impart a new and deeper meaning to nature, which open up rural opportunities heretofore undreamed of, and give an impulse toward creative thinking about his environment that will endure beyond school years and make the farmer's life a growth and a continual education.

The movement for better rural education is already widespread. Practically every state in the Union has farmers' institutes designed to arouse interest in scientific agriculture and to popularize scientific treatment of especially important farm problems. The National Department of Agriculture and many state departments are unflagging in disseminating literature and giving consultation. Experiment stations have given incalculable stimulus to up-to-date farming in adjoining districts. Colleges of agriculture are everywhere enlarging their extension work to include lectures on agriculture, traveling schools, and one, two, and three week courses held either at the college or throughout the state. Minnesota, Arkansas, Massachusetts, Oklahoma, Wisconsin, Alabama, Georgia, and New York have

promising systems of so-called agricultural schools of the high school type, and in many other states agricultural courses have been added to the curricula of existing high schools. An extensive effort is being made to equip elementary school-teachers for presenting agricultural subjects. In thirteen states, teaching of agriculture in rural schools is required by law, while in thirtyone it is encouraged. Gardening is becoming a feature in many progressive schools, and, though the experiment is limited in extent, it is unlimited in results, as is proved by the social and moral effect of the gardens in De Witt Clinton Park, New York, in Weccacoe Square, Philadelphia, and in Dayton, Ohio. It is a curious fact, however, that school-gardening has been largely confined to city schools and betterment agencies, and that its educational and practical value in rural communities has been little recognized, Where gardening is not done in connection with school-work, home gardening for boys and girls is widely encouraged by the competitive corn and tomato clubs. The general interest in nature study, which even extravagant faddists have not been able to discredit, is our longest step forward in the way of better rural schooling, because it means a transforming of the

spirit and a redirecting of the method of education.

Marvelous and inspiring as are the strides which the movement for agricultural education has made and is making in the United States. we must not allow them to blind us to the fact that, after all, we do not insure to every farmer adequate preparation for his work. The special college of agriculture is out of the question for the average country boy. Little use is made of rural common schools as training for farm life and the agricultural high school is still a rarity. "Probably not one farmer in twenty-five ever attends a farmers' institute." 1 A somewhat larger fraction, but still a fraction, read intelligently the government bulletins. The short courses and special lectures offered by institutes and colleges are not and cannot be a systematic preparation for agriculture. They merely solve the concrete difficulties of farming for the person who has already encountered them in practice. The fundamental, thorough, and comprehensive system which shall give us a competent rural population has not yet been evolved. Yet this preliminary agitational work is an invaluable test of the feasibility of scientific agricultural train-

¹ Report of U. S. Bureau of Education, 1909, chap. XI.

ing, prepares the public mind for the adoption of an adequate system, and should determine the exact form to be assumed by such a system. We are, so to speak, breaking up and preparing the soil for the new educational crop.

Other countries have gone further than we in the matter. France has established schools of agriculture in every province, schools which have encountered a great deal of local prejudice, but which are raising French farming to a higher level of efficiency. Belgium has followed and improved upon French example. The name of Switzerland is synonymous with scientific agriculture; and while an American is poor on five acres a German would be independent. The disparity cannot be explained away by the different standards of living. It is partly traceable to the new effort on the part of German, and notably Prussian organizations, to educate the farmer for his vocation. Austria has over one hundred and ninetyfive schools in which agricultural subjects are taught. Holland and Denmark show an equally advanced attitude toward agricultural training, and in the British Isles, the movement is gaining ground. In England and Wales, itinerant lecturers under the auspices of the county councils go out from the university or agricultural

college center to give instruction to local classes extending over several weeks. Special problems, such as milk handling, are discussed throughout one course. These instructors also supervise the work done in local agricultural continuation courses, night classes, and popular lectures, and they advise about the management of the gardens which are becoming a more and more common feature of English country schools.

Canada uses the school-garden to good effect. Her rural schools have regular courses in agriculture supplemented by work on an experiment farm. The advantages of rotating crops, of fertilization, of proper choice and care of seed are illustrated in the most conclusive manner by maintaining two sets of fields for every point to be proved. In one field crops are rotated during a certain term of years, while that adjoining is planted year after year to the same crop and soil exhaustion becomes evident in the inferiority of its yields. One crop is adequately fertilized: the adjoining one is not; and the pupil has ocular proof of what increase in net profit the greater outlay has produced. One field will be sowed with new, selected, fumigated seed; the adjoining one with old seed. This system is revolutionizing Canadian farming, and is making of our

sister republic on the north a dangerous potential competitor for future American food markets.

The question of agricultural education is, however, in the last analysis more than economic. We need it not so much that we may raise more corn and wine, but that we may raise better men and women in our country districts. Any work is to be judged rather by the human being it develops than by its material output. And the human resources of country life, we have as yet neglected. Our rural populations are not rooted to the soil. The country road which passes by the author's ancestral home shows scarce a family which has lived more than twenty years upon the land. Most of the places have changed hands within the past ten years. New names, new faces - a continual flux! And what of the neighborhood which for a century has not outgrown this fluid transitional stage? Barren of association, barren of traditional ideals, what formative influence can it exert upon the character of its people? What love or respect can they have for its beauties? What intelligent policy of conservation can this shifting population maintain? The land is harried by a succession of transient farmers; its woods are leveled; its hills unveiled. Their past

is dead; their future, a matter of indifference. The farmer's sole thought is to get all he can at any cost; he, too, will soon move on.

The life of such a place is raw and tasteless; it lacks the mellow savor of a community which has been a slow accretion of all that was best and most enduring in many decades of human growth. It lacks social solidarity; it lacks standards. Its language has no earthy tang; its bad grammar never rises to the dignity of dialect. Perhaps such a neighborhood escapes the stagnation of the isolated village where a static inbred population is year by year deteriorating; but it represents an equally undesirable extreme. Between the two there lies the mean of true agrarian self-realization.

Education for the farmer must not lead him away from the farm, but teach him to bring the best from the outside world into farm life. Perhaps then we may hold our population generation after generation on the ancestral acres, and produce that solidity of race, that richness of association and legend which make for the beauty of some European countries and give the life of the people that perspective which Hawthorne has said is necessary to the production of a national literature.

VII

TRADE EDUCATION AND ORGANIZED LABOR

Notwithstanding reports to the contrary, organized labor favors trade education. Washington Conference of Labor Leaders, it was resolved that industrial training, beginning in the higher grammar grades, should become a part of the public school system, and that school attendance up to the age of sixteen years should be made compulsory. The meeting of the Federation of Labor at Toronto reinforced the Washington resolution. It may be objected that the Federation is more conservative than the average trade union, and hence, though officially labor's organ, not really representative of union sentiment. The precise weight of this objection can be measured by the results of a canvass of New York State unions. Out of twenty-four hundred and fifty organizations, fifteen hundred favored preparatory trade schools for children from fourteen to sixteen; and twelve hundred and thirty-two of these also favored special trade schools for boys from sixteen to eighteen years of age.

Nevertheless we often hear that trade unions oppose any extension of apprenticeship and are much more hostile to free trade education. That they have sometimes looked with disfavor upon potential competitors, in the fear that they will depress the union wage, is undoubtedly true; and certain labor organizations have adopted a medieval policy of limited apprenticeship recalling that which formerly undermined the usefulness of guilds. The wronged person is rarely wise in his first efforts at redress. This restriction upon apprenticeship is not, however, nearly so important or so sweeping as is popularly supposed. Ralph Albertson, of Filene's department store, Boston, states that no trade union restricts the number of apprentices to less than seven per cent of the adult workers and that twenty per cent is the usual union regulation; whereas the actual numbers employed in the best trades still left for apprentices are: 5.86 per cent in machine trades, 5.70 per cent in plumbing, and 1.3 per cent in the building trades. While the danger of overproduction is as real in the labor market as in that of manufacture, experience has taught that in both it is subject to rational control, and the antagonism to more thorough methods of apprenticeship comes from a decreasing number of unintelligent laborers

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whose sense of grievance is real and poignant, but whose rudimentary vision of cause and effect is still blinded by resentment.

From a Middle Western labor council comes a liberal statement upon this most mooted point in all union discussions of industrial education. Supplemental trade schools "have proved a great benefit to apprentices who may, by the limits of the shop they are working in, or from other causes, be denied the advantage of getting into close contact with all the branches of their work; and as a preliminary training they would give the prospective mechanic such a grounding in his elementary work that it would seem advisable to allow all or part of the time spent in the school to count on his apprenticeship term."

The process by which this decision was reached reveals the real attitude of the average union man. Believing that union labor has a valuable contribution to offer the projector of a program for industrial training, and hoping to create a new block of active public opinion in favor of such training in Kansas City, the author sent questionnaires to every trade union in the city and asked the Industrial Council to take a definite stand upon the matter. The first response from many of the locals was a suspicious negation due to ignorance.

Letters arguing pro and con poured into the author's mail — the hottest negatives often furnishing factual evidence in favor of trade schooling. Discussion in the Industrial Council was warm and marked, not by opposition to vocational training, but by fear of "some nigger in the wood pile." Finally the Council appointed a committee to study the subject in detail and report its progress at successive meetings. The result of this study is indicated above, and probably represents the attitude not merely of labor leaders, but of unionists who have given the subject thoughtful consideration. The committee further recommended that the Industrial Council urge the establishment of part-time trade schools, "provided the trade instructors were chosen from the best men now at work in industry and provided the Council were given some share in shaping the general policy of the schools." The original hesitancy of the unions is thus seen to have been commendable fear of indorsing an ill-defined program, a fear that vanished before a clear-cut plan with measurable consequences.

Great difficulties undoubtedly present them selves in grounding vocational schools. The training must fit the needs of the region or it will merely graduate candidates for unemployment.

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Suppose the industry of a region changes. Can the school follow quickly enough? Suppose new. methods of manufacture are introduced. Can the school afford to scrap at once its out-of-date but expensive machinery as a factory would do and thus keep pace with business development? How to divide pupils among the different branches: how to prevent overcrowding with its subsequent oversupply of pupils from popular classes; how to guard against the subtle temptation to overemphasis offered to the principal by iron and wood industries which lend themselves well to classroom work; how, in short, to articulate the school and the industry so closely that no superfluous worker will be produced — these are all questions indicative of grave dangers, dangers which make the labor union justly oppose, not the trade school ideal, but certain types of trade school which involve them. This is the reason why French workingmen's organizations have shown real hostility to vocational schools whose enrollment is independent of the need for new workers in industry. This is also the reason why our own labor unions look askance at really effective trade courses which rotate apprentices weekly between school and factory. Such an arrangement as the Fitchburg, Massachusetts plan, with its alternate weeks of

classroom study and actual wage-earning, means at bottom that twice as many workers are being trained as can be ultimately utilized. Against such playing into the hands of the employer, labor naturally protests.

But over against these dangers stands the fact that it is not skilled but unskilled labor which menaces the union wage. "We have too many untrained boys already in our trade," writes many a union secretary. Though it be true that many industries must have unskilled helpers, we need not acquiesce, nor will the union man, awake to the true interest of his class, acquiesce in the plea that because there is a certain amount of unskilled work to be done, a whole section of humanity must forever be kept ignorant in order to perform it. Such inferior positions may well be held temporarily by beginners in industry who, later, will pass to higher tasks and make room at the bottom of the ladder for new aspirants. Furthermore, as far as the eve of the present can reach, men will always be unequally able to profit by instruction and the less apt must content themselves with comparatively unskilled work. The trade school gives every man a chance to make the most of himself, but does not, cannot warrant that the "mosts" will be alike.

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Another trouble, which is sure to arise in the course of effective trade school management, is that unions oppose the sale of school products. The words "institution-made goods" are familiar to all who have followed the course of prison reform and have noted the untimely check which, because of an unlucky complication of issues,1 progressive methods in penitentiaries have often met at the hands of manufacturers and unionists alike. That the goods are made in an institution is not the union objection, but that they sometimes sell at a price which cannot cover a living wage for independent workmen in competing factories. When a fall in market prices and subsequent reduction in wages seems imminent, prison goods are compelled by law to retire from the field, and many criminals fall idle in confinement or are occupied at trades which can be of little service to them after discharge. Although the temptation partly to recoup the public treasury for an outlay quite independent of sales is easy to understand, there is no reason why prison goods should be marketed so far below the real cost of production; and an enlightened opinion will repair this blundering action

¹ Such as the related but entirely separate question of leasing convict labor to private contractors.

and attack the real crux of the matter, regulation of prices. The question of school-made goods is susceptible of the same sort of regulation. It is obviously undesirable for a school to become a money-making institution; speed and economy would soon usurp the place of careful education. But there is no reason why the prices of school-made goods should not follow the market, since no private profit impels to underselling the legitimate producer.

It was not, however, because there were no well-grounded arguments against it that the American Federation of Labor declared in favor of public vocational instruction. These hardhanded men recognized that labor would benefit thereby, not only in myriad indirect reactions upon the laboring man and his living conditions, but directly in a higher wage. That competence is better paid than incompetence is self-evident, and the proof which, in economics, even an axiom seems to require is furnished by comparison of the wages of trade school graduates and ordinary apprentices. The Massachusetts Commission on Industrial and Technical Training publish the following table based upon a study of two thousand wage-earners in Massachusetts: ---

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Age	Wages per week of mere apprentice	Wages per week of Trade School Graduate
14	\$ 4.00	_
15	4.50	_
16	5.00	
17	6.00	_
18	7.00	\$10.00
19	8.50	11.75
20	9.50	15.00
21	9.50	16.00
22	11.50	20.00
23	11.75	21.00
24	12.00	23.00
25	12.75	31.00

The depressing effect on wages in industry of the low rates due to overcrowding in non-industrial lines, particularly clerical, would be in some measure counteracted by attracting into trade those very competitors before whom some short-sighted union men tremble, but who might perform the additional service of superseding the cheaper labor of the immigrants who menace American standards in many vocations and present a problem with which unions cope valiantly but ineffectually.

A less obvious feature of the effect on wages of better trade instruction is its bearing on inter-

national competition. Unless the American laborer wishes to be superseded on his own soil by the output of some clever toiler across the sea, he must be cleverer than his distant rival. But until he has as good a training as is given to workmen abroad, he will be no more certain of his job than if that foreigner were standing at his elbow asking for it.

If the future of labor is to lie in the hands of labor, then labor must be wise. When the working man can afford to remain longer in school, he will learn to use his head as well as his hands. and the union needs heads fully as much as hands. At present, half its strength goes to self-education. To raise the standard of living of its members, to teach workers the value of their labor, to open their eyes to what constitutes decent conditions of work and pay, to arouse them to the need for organization, and to drill them in effective methods of cooperation are the prime tasks which confront the labor union, and especially the labor union in immigrant neighborhoods. The real champion of Americanism is the American laborer; and in fortifying American standards, the struggle of the union will find its strongest support in the trade school.

Not only higher standards, but the thought



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power which breeds sane and rational methods of accomplishing them, will be the property of a better educated working public. With training in history and civics and hygiene comes a widening of outlook which will elevate union effort from the level of self-seeking to that of civic enterprise. Let the rank and file come into the organization equipped, not only with the information necessary to secure their own advancement, but with some knowledge of the place of that advancement in the social and industrial whole, and the union will prove an invincible force both for workingmen's betterment and for public welfare.

VIII

TRADE EDUCATION AND SOCIALISM

Socialism is a philosophy of intelligence.

It is not a leveling down of society. It is not absolute communism. It is not a scheme of spoliation devised by the "have nots" to enrich themselves at the expense of the "haves." It is not a system of governmental paternalism and individual inertia. Its ideal is not drab uniformity.

Benjamin Franklin once said of a plan, whose adoption he had unsuccessfully defended, that the extreme diversity and contradictoriness of the arguments urged against it proved to him the soundness of his proposition. The socialist might lay the same flattering unction to his soul, as attacks against his theory of life are so opposite in nature as to refute each other. This is due to a general misconception of what his theory is.

Some one has jestingly remarked that every thinking man is a socialist, whether he knows it or not. In a measure this is true, for every thinking man believes in equal opportunity for all: not in equality — but in opportunity to make the most of those diverse, unequal abilities latent

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within us. What philosophy calls self-realization is the socialist's ideal. Nothing could be more inimical to self-realization than the perfect uniformity of communism or the absolute license of nihilism. Socialism would proceed by another road. Man in society must at the same time be free to grow up to his individual limits.

That he is not at present free to do so is the socialist's contention. Private ownership of capital in land and in the instruments of production has given certain individuals power to determine the living conditions of great masses of people; and the competitive organization of business has forced them into using this power to grind down the working public to a level where real living is impossible. Socialism would transfer from private hands to the general public the ownership of such capital. This, according to John Spargo,1 does not mean entire abolition of property lines. Only as private property gives control over human life, or reaps social values, is it a menace. Monopolies belong to the public: small independent industries might well be left to private initiative subject to governmental regulation.

Some persons, indeed some socialists, see in

¹ John Spargo, exponent of American socialism, in an address at Vassar College, 1907.

socialism a purely proletarian movement. This is a narrow view. Socialism is not a class philosophy, but a universal philosophy. Matthew Arnold, the apostle of culture, pleads that our inequality "materializes our upper class, vulgarizes our middle class, and brutalizes our lower class," and it is for the sake of all humanity that the socialist desires the abolition of private profit which, he maintains, robs master and servant alike. Society will be far richer when the lives now blighted by adverse economic environment reach full fruition of their powers.

With the case for or against socialism we are not here and now concerned, but the bearing of this most significant of contemporary propaganda upon the question of industrial education cannot be ignored. We are tending toward a more and more socialistic form of society. The fact that the party polls every year a larger and larger vote is the most negligible proof that this is true. Socialism's gains have come in the main through agents without the ranks. The concentration of capital we have witnessed in the United States during the last quarter of a century has paved the way to a socialization of commerce and industry which is already taking place. Governmental supervision is a pseudo-ownership, examples of

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which confront us on every hand. Once the responsibility of the state in this regard is established, real ownership will follow where regulation proves inadequate. Natural resources are thus more and more appropriated by the state. Municipalites are managing their public utilities. Plank after plank in the socialistic program has found its way into German, English, and American legislation in the shape of extended suffrage. initiative and referendum, employer's liability laws, old age pensions, accident and sick insurance. Even in our homes we feel the socialization of living. Not only are we dependent upon the outer world for our supplies, but milk inspectors, pure food laws, building regulations, and health boards attest social responsibility for individual welfare.

All this means an increasingly complicated system of government requiring greater efficiency on the part of officials, and greater and greater civic spirit and intelligence in the citizens who elect and censor them. How well is a republic, where less than one fourth of the voters ever pass beyond the fifth or sixth grade in grammar school, prepared to solve these vast and delicate governmental problems? The socialistic state requires high-grade citizenship. It requires a think-

ing and an acting public; and especially does it demand that the public should think and act along the lines in which vocational schools should train their pupils.

The crux of socialism is of course economic. The socialist must understand industry in order to realize his ideal without injustice: not merely that particular little industrial pigeonhole in which he finds his daily bread, but the whole trade situation. Specialization has multiplied class antagonisms, and just so long as we have an unintelligent working population whose vision is bounded by the special process at which they toil, who do not understand the work and function of all factors of production and distribution, so long shall we have irrational demands from labor and irrational outbreaks; so long shall we have an evergrowing mass of workers given over to an abortive, half-baked socialism, which comes to little more than nihilism, violence and damaging of property in the end. When, however, as Mr. Spargo points out, discontented persons are wise and educated enough to see their position in its historical perspective, there is no class hatred for the capitalist on the part of the worker. Then he judges institutions and not men; and would introduce his reforms through legislation fair to

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laborer and capitalist alike. Labor has a voting majority, and the only safe thing for capital is to educate labor broadly and thoroughly.

It is not alone in realizing the socialistic ideal that intelligent citizenship is imperative. If labor is to own capital and conduct industry, it will be necessary that the workers understand the whole process of manufacture and marketing. Can the academic high school or even industry itself teach them this? And when government officials are managing directors of commercial enterprises, the stockholding voter must keep a watchful and seeing eye upon the administration of the public's business. "There is no such thing as an automatic democracy: the price of liberty will always be eternal vigilance." 1

If we ever have a socialistic state, progress will no longer be stimulated by desire for private gain. In place of love of profit must come love of perfection and the intelligence which sees beyond personal concern to the general good. Can six years in grammar school inculcate this?

The socialists themselves are the first to recognize that the corner stone in their edifice is education. "Anything which raises the standard of life, morality, and mentality of the workers,

1 Spargo: Socialism,

makes them increasingly fit to assume complete control over industry," says Robert Hunter.¹ That vocational training is the surest means to this end was the thought of the Radical Republican and Socialist Congress at Dijon when it declared in favor of obligatory industrial education.

1 Robert Hunter, Socialists at Work.

IX

FOREIGN TRADE SCHOOLS

It is not enough to believe in the efficacy of trade education. Faith may suffice for religion, that glorious realm of the still unrealized ideal; but in practical affairs, we demand sight, proof, fact. Therefore the advocate of industrial training turns to actual working examples, namely, the trade schools of Europe, for his best argument as to its feasibility. Moreover, at this moment, when American interest in industrial education far outruns the definite formulation of our concept as to what such training should comprise and a rosy glow of enthusiasm lights up clouds of theory, renewed study of the well-tried European systems is à propos. France and Germany are emerging from the educational renaissance at whose beginning we find ourselves. Lack of perspective and of thorough investigation prevents us from judging rightly the effectiveness of our first experiments in trade instruction. But the oversea school presents no such difficulty. There we read plainly the failure of methods on

trial in our own country. There we see largescale experimentation with appreciable results, and gain a criterion for testing the worth of our own gropings. There we learn what painstaking study of the business world must precede the drafting of a successful program.

Trade schools for beginners may undertake to supplant or to supplement apprenticeship. German schools belong as a rule to the second, French, to the first, class. Among German schools there are two types: the Berlin continuation school, which supplements apprenticeship by general intelligence courses and relies upon the child's labor in his master's shop to give him trade practice; and the Munich institution, which includes practical work in the curriculum.

These three forms of the industrial school are the product of equally distinct ideals. That of the French educator is a skilled artisan; Berlin has in view a well-informed worker; while Munich strives to produce a useful man.

I. Paris

At thirteen, the Parisian child of poor parents, having mastered the three R's and got a smattering of French history, completes his required schooling. A few years ago only two courses then

opened before him: to go at once to work or to continue a purely academic education through the public high school and fit himself for commerce or clerical positions. But this was at last found unsatisfactory. The majority of French children, as is true of children in any other land, are destined for industry. The schools not only failed to train them for this, but actually rendered them unwilling to do manual work for a living. Despising their only means of subsistence, hundreds of girls went on the streets to avoid "degrading drudgery," 1 and thousands of boys found themselves unable to obtain places in the already overcrowded clerical and professional field. Meanwhile there developed in industry a crisis unparalleled in the history of other countries and threatening to destroy the century-long French preëminence in hand industries. Apprenticeship had become a dead letter and specialization had so degraded the quality of labor that employers were confronted by an absolute lack of skilled workers. Meanwhile the colleges were turning out theorists and overseers, who found themselves in the anomalous position of having no one to oversee. On the other hand,

¹ See *Prostitution des Enfants*, Eugène Prevost, Avocat à la Cour d'Appel, Paris. 1909.

unemployment assumed the proportions of a Problem.

In the face of German competition, public interest rose to fever heat and so remains to the present day. All over France trade schools have been established which aim to meet the desire for popular education, and to replace the oldtime apprenticeship as a preparation for business. These have proved utterly inadequate in number to supply the demand for skilled workers. The situation is aggravated by two imperfections in the child labor laws, which have, on the one hand, allowed many children to work before they have acquired the rudiments of an education; and, on the other, forced them, as is indeed the case in our own country, into the lowest of unskilled labor which offers no prospect of advancement and substantially unfits the little worker for other and better paid positions.

Alarmist literature and agitated discussion of the subject abound, discussion originating with educators, employers, and social students alike. A special League for the Encouragement of Apprenticeship has been formed. The only element, in fact, which is not yet fully aroused to the necessity for trade instruction is organized labor; and it is safe to say that the unions do not

object to trade schools per se, but fear that the capitalists will use them to train cheap labor to complete with union workers.¹

Meanwhile a fire of criticism, favorable and adverse, is directed toward the elementary schools now in existence. It is with this vocational school for the plain man, with the actual classroom experience of its pupils and the proved successes and failures of this experience as a preparation for trade life, that the present chapter is concerned. Paris boasts fourteen such institutions ² which children may enter upon completion of the grammar grades, each having for its object the training, not of overseers, but of ordinary workmen.

In the land which, next to Italy, has made art most nearly conterminous with life and which has more than once in philosophy and govern-

- ¹ In Paris 124 out of 229 trade unions voted in favor of trade school work.
- ² For boys: courses in the metal trades, pattern-making, decorative art, industrial design, pottery, sculpture, cabinet-making, surveying, mechanics, electricity, and the book industries.

For girls: trade and domestic science work, including cutting, sewing, lingerie, tailoring, embroidery, pressing, corsets, vests, artificial flowers, industrial design, pottery, fine art, bookmaking, typewriting, stenography, laundry work, general housework and cooking.

ment pushed symmetry to the breaking point, one finds, naturally enough, the two salient features of the schools to be emphasis upon artistic values and close correlation of all parts of the curriculum. Both these features are particularly marked in the *École Estienne*, a boys' school devoted to all trades connected with bookmaking.

A glance at the course of study brings home the complexity of the business world which the pupils enter upon graduation. The subject of typography comprises four distinct trades: type-setting, type-founding, printing, and stereotyping. Lithography is split into lithography proper, lithographic script, stone engraving, and lithographic printing. Engraving covers wood engraving, engraving in relief, copper plate, and photoengraving, and printing from copper plate; while binding is divided into binding and gilding. Four years of eleven months each are required to gain a certificate of apprenticeship in any of these trades. Sunday is the only holiday and the school holds from 8.30 in the morning till 6 at night.

The mornings are devoted to theoretical work: the afternoons, to practical instruction, except for a slight preponderance of practice in the last years. Each trade has its own shop for practical

work in charge of special instructors, and during the first four months of the term, the new pupils attend in rotation all the workshops in the school and thus make choice of a profession.

In spite of the complexity of the problem, the course of study is a coherent unit. The morning lessons in theory (comprising French, general history, geography, history of art and of the book industry, mathematics, physics, chemistry, zoölogy, drawing, modeling, writing, and original design) are the same for all pupils in the first two years. In the third and fourth years, pupils are grouped in three sections which handle subjects bearing most directly upon the individual trades. In the case of the lithographers, engravers, and gilders, designing predominates; with the typesetters, it is French, and general information; while the printers and founders study in more detail physics, chemistry, and mechanics. This orientation of theory towards practice does not begin in the third year, however. With the opening of the first year, the pupil finds that what he learns in one course is not so much isolated knowledge, to be saved up till that class and its quizzes come round again, but something he will take up and use when the bell has tapped and his next period begins.

The principles of plane geometry as studied in the first year are applied, in the courses for geometrical design, to the composition of vignettes, margins, and covers. Flowers, treated scientifically in botany under one instructor, are drawn and modeled from nature in other classes; form the subjects for the conventionalized tail-pieces, illuminations and fancy initials which the students design in the third and fourth years under a still different teacher; and are then used as working plans in shop practice. The different styles discussed in lectures on the history of art are actually copied in drawing-class; are modernized and adapted to the needs and materials of particular trades as original designs; and then put to use in the various ateliers. Where the designs for shopwork are not made in the drawing-class, they are still made by the pupil himself and are applications of the principles there laid down. Although they also set up after models, typesetters often design their "ad's" and pages; gilders, their stamps; and type-founders. their fancy type; while engravers execute their own drawings. Physics and chemistry are not only taught parallel with botany and zoölogy, where they are of constant use in explaining the phenomena of growth and decay, but are made to

apply to the concrete problems of photography. engraving, etching, founding, and machine operation. History and geography are connected in like manner. History and the history of art are made interdependent. The history of the book industry draws from both sources. Classes in French utilize material from every other department for composition subjects, for dictation, and for illustration of grammatical rules. In short, what is learned in the theoretical courses under one teacher is applied in an original design under another, and in the afternoon, put into practice in the workshops. The constant effort is to develop originality and creative power in each pupil, and, because the whole course hangs together, he is helped to constructive thinking which will make connections for itself. The children see where their work is tending and of what practical use it will be to them. They are therefore interested and intelligent. Because everything they turn out in the shops represents their cumulative effort, they take that pride in the finish and artistic quality of their product which has hitherto given to French hand industries world-wide supremacy.

A further correlation takes place between the practical work in separate trades. The printers

use in their presses what the compositors have set up with type from the founding class. This is illustrated by the engravers with cuts used in the courses for impression taking. Perhaps the printed book or pamphlet then goes to the binding-rooms and is at last finished and gilded by pupils in still another trade. Thus, not only does each pupil feel that his work has a definite practical outcome, but a whole class may work together to produce that which can be put to direct use somewhere else, and ultimately serve to arouse esprit de corps in the entire school body.

Examination of the work of the different departments shows how closely consideration for artistic values is woven into every portion of the individual courses. Each practice class spends a large portion of its time in considering the special art problems of its trade. The pupil must learn to reproduce the ordinary objects of his drawing-class with the tools of his calling: the graver's awl, the lithographer's pencil, the gilder's stamp. He must apply here, through a new medium, the principles of beauty he has elsewhere evolved, and is brought to see that a catalogue, a poster, an advertisement, is governed by the same laws as the painter's masterpiece.

In the Ecole Boulle are taught the marvelously

many trades involved in the making of a single piece of furniture, beginning with the designing and following through the making of the frame, the molding in plaster of the prospective ornament, the actual carving of the wood after the plaster model, the inlay, and the iron, brass, and nickel work, down to the polishing and varnishing. Here, too, the emphasis is upon the artistic and creative sides of production. Mr. Brizon states the purpose of the school to be "to train workers able to conserve the traditions of taste and the superiority of the peculiarly Parisian industry of artistic furniture." To conserve the traditions of the glorious past in French furniture, the school has a special exhibit room illustrating various styles famous in the history of the industry. This set of replicas, made in the school, is supplemented by a collection of casts representing types of ornamentation. In speaking of the equipment of any Parisian school, one must always bear in mind the great museums of the Louvre and of Cluny, which are arranged to be patently educative and which are used much more extensively for school purposes than any remotely comparable American collections. All these factors skillfully employed by the teacher of art and industrial history, serve to steep the pupil,

not only in ideas, but in the fact and spirit of his trade as an artistic development. The last year of the course is devoted to modern styles in furniture-making, and the pupils are encouraged to create for themselves, on simple lines, designs which sustain the standards and modernize the spirit of the great artists with whose work they have become familiar.

This effort on the part of the instructors in art fits compactly into the scheme of the practice work, in every branch of which the pupils execute after approved models for the first two years and design for themselves during the last. This plan is intended to combat the disintegrating tendencies in modern'furniture-making -- slavish imitation of old models and flashy novelty in ornamentation. It is hoped that by a study of the history and theory of former styles, the pupils will be led to imitate, not the patterns, but the spirit and the methods of the old masters; and, in the same way that Louis XIV's great cabinetmaker, Boulle, developed a style appropriate to the civilization in which he lived, themselves come to understand what is suited to the life of the modern household.

The course in wood carving illustrates the general plan of treating art in connection with

practice. The elementary exercises are naturally directed toward the mastery of tools and materials. When a tolerable degree of skill is acquired, the pupil begins to design for himself. Suppose a chair is given for decoration. He applies what he has learned in drawing to make a sketch for the proposed ornamentation of a leg. This he must model in clay to get a good idea of the form and test the applicability of his flat design to sculptured relief. He then makes a plaster cast of his corrected model and from this pattern executes his carving. More advanced students carve from a sketch without plaster pattern, but not until their sense of form and body is as well developed as that of outline.

Not only is every course in every Parisian school colored by regard for artistic values, but the aim is also to combat specialization in its narrowest sense. The hours devoted to practical instruction are not exclusively occupied by bench work, but comprise the technical instruction necessary to a perfect understanding of the work in hand in its relation to the trade as a whole. The effort is also toward varied practice. The copper-plate printer in the *École Estienne*, for example, is given practice

¹ There are also successful schools for both boys and girls which teach industrial design as a special trade.

on job work as well as éditions de luxe, on visitingcards and bills, on illustrations and maps, whereas. were he serving an apprenticeship in a shop, he would learn only the specialty of that shop. Courses for artificial flower-makers teach, likewise, all sorts of flowers, on the branch, after nature, and for the modes. The student of jewelry specializes at either the hand or machine process. but becomes familiar with both methods, as well as with the manufacture of the stamps used. General trade intelligence and not particular manual skill is the end in view; yet the proper basis for manual dexterity is given in the thorough understanding of all processes and in the constant use of real machines and real trade materials

Teaching a complementary trade not closely allied to one's specialty is a feature peculiar to the École Boulle. This is the same for all pupils—hammered brass and copper. The children spend an hour a week for three years at this, and while they do not attain great skill, they are capable of turning what they learn to practical use in case work fails them at any time in their trade. This brass and copper practice was chosen both on account of the comparative ease with which some degree of proficiency can be acquired

and because the recent revival of interest in handhammered goods gives certainty of finding odd jobs.

As attendance upon trade schools is not compulsory in France, sweeping inferences as to results are dangerous. Some phenomena are, however, obviously attendant upon the foundation of trade schools. The school enrollment has risen greatly; and the percentage of daily attendance and the ratio of graduation to first year enrollment is higher for vocational than for academic schools. M. Brizon quotes in his Apprenticeship: Yesterday — Today — To-morrow, the opinions of employers and educators that the ultimate wage-earning capacity of the trade school graduate is considerably above that of the average apprentice. A majority of the Parisian manufacturers' associations have unanimously expressed themselves as favoring public industrial education, but their commendation of the ideal is tinged with an ever-recurring criticism of present trade school methods. The furniture workers maintain that, although the trade school graduate is less adroit at first, because of his general education he is better later on than an apprentice. The heavyiron workers find that, though in the end he shows himself more intelligent, the trade school youth

is at first wasteful and hence paid less than an apprentice who has been in industry while his colleague was at school. Dressmakers prefer trade school graduates because they produce at once; jewelers, because they are all-round workmen. But printers, photographers, and engravers prefer apprentices who take professional courses in connection with trade work, because they are swifter. "Trade graduates have had too little practical work." The Council of Makers of Instruments of Precision sum up the problem in saying that if graduates of trade schools are willing to begin at the bottom and put themselves au courant with the trade, they become better workers than those who have not had school training; but that often they are not willing to do this and are then too theoretical.

In short, there is a gap between the French trade school and business conditions which the trade graduate must bridge for himself; and the spirit of the school often unfits pupils for bridging it. In spite of the studied symmetry of the course; in spite of the cultural and intellectual value of the three or four years spent in the classroom; in spite of the general trade intelligence the pupil has gained;—in spite of all these undeniable assets, he enters industry

handicapped. He is unaccustomed to conditions of work in a shop where competition forces economy of time and material. He is exquisitely careful in the execution of his tasks, but is neither speedy nor dexterous, and these latter failings account for the dissatisfaction of so many an employer with trade school pupils.

One solution of this difficulty is offered by the school for girls in Fondary Street, which teaches the distinctly feminine occupations of sewing. tailoring, millinery, and laundry work. The academic side of this and similar institutions is neither so varied nor so thorough as in the boys' schools, because girls are not expected to make such serious use of it and do not often engage in professions demanding high-grade intelligence. But an especial effort is here made to keep in touch with actual trade conditions by having the senior pupils fill orders for the clients of their several departments. This insures variety in work and gives interest in saving time and material and in the quality of the output. The difference between the courses which follow a clientale and those in which the children work on models and with sham materials is striking. Nowhere in the former is that slackness and waste of material evident which marked each course of the latter

type visited. The school in Fondary Street has the aspect of a select shop. As in all Parisian schools which sell their products, prices are everywhere a little higher than those on the regular market, since they are fixed to cover the increased cost of production in a schoolroom where work is slow and the factory foremen are replaced by high-priced teachers.

The League for the Encouragement of Apprentices proposes another remedy for the all too evident cleavage between schooling and practice: i. e., part-time day schools compulsory for apprentices in industry and in charge of men with extensive trade experience. In other words, this League, which has studied more thoroughly than any other agency the business and educational aspects of the French situation, looks to Germany for the solution of its problems.

II. Berlin

While trade schools in France have been the slow response to a crying need, the German system of education is more truly the result of foresight. To understand any German institution, we must remember that for what many another nation owes to haphazard growth through the ages, the Teutonic empire must thank the sys-

tematic plans of her rulers, who, within a century and by a concerted scheme of action, have developed Germany from a group of negligible petty kingdoms to one of the foremost world powers. In this development, the industrial and commercial policy of the government has had, if not the title rôle, at least that of principal support. Political integrity was not enough. Germany must be both industrially self-sufficient and necessary to the consuming world at large. As every young German is trained to defend his country in time of war, so is he also trained to defend her in the markets of the world in times of peace. That this program has been successful is attested by the rapid commercial advance of this newest of nations. Not only does Germany produce an amazing proportion of what it uses, but German goods have captured the French market and are invading even England and the United States. We buy hundreds of articles whose label, "Made in Germany," may be a lie about the place of manufacture, but is no uncertain hint as to where they should have been made to secure first quality. In the words of a French student, — and the French, oddly enough, are Germany's most appreciative critics, - "Germans lack initiative and inventiveness,

but these things are trained little by little into the people by a system of education ever on the alert to inculcate good methods of work. The results which Germany has obtained she owes largely to scientific methods."

Of course a deal of cheap nonsense is talked about the prosperity of the Fatherland. Germany is not yet the modern Eden, or else the tide of immigration — that most delicate industrial barometer — would set away from the United States and toward our martial cousins. Though she manages to tuck them effectually out of sight, Germany still has her poor and sinning. But the traveler must be impressed by the solid aspect of German towns, by their inner strength and self-sufficient Germanness, and by the absence of that pitiful catering to tourists which marks the decadence of Paris. Even the tiniest stores have tasteful show windows arranged with remarkable sense of color and proportion. Far more extraordinary than the lovely flower displays, which brighten many a grim side street with the sunshine of daffodils and marigolds, is the beauty of dairies and butcher shops, recalling, by their profusion of herbs, jellies, sausages, fruit and game, some splendid still life by Fyt.

One involuntarily asks oneself where that dumpy little fellow in the linen apron, who has come out to eye his wares critically from the curbing, ever caught the knack. He would be prompt enough in his answer if the question were put to him: "In the continuation school for butchers."

The French system of trade schools may be termed optional supplanting of apprenticeship. The German is a compulsory supplementing of it, and to the continuation schools of Berlin must go every boy between the ages of fourteen and seventeen, who is at work in commerce or trade.¹ The six hours a week devoted to schooling are usually taken from the working day and the employer is made responsible for his apprentice's school attendance. Some courses are given on Sunday, others at night, but there is a strong movement on foot to bring all classes into the daytime and, where possible, into the morning schedule.

Since the age qualification is the only requirement (completion of the grammar grades being entirely beside the question), the continuation schools receive pupils at widely different stages of advancement. The boys in each year are there-

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¹ It is hoped soon to extend this compulsion to girls as well.

fore grouped, according to their preparation, in three sections, work for which follows the same general plan, with special adaptations as the needs suggest, makes up for past deficiencies. and carries the pupils forward as far as is compatible with thoroughness in every inch of ground covered. A typical continuation school in the Moabit district offers six hour per week courses for machinists, locksmiths, merchants, craftsmen, and unskilled workers such as errand boys. Instruction in the five departments is entirely separate. There is no practical work in the school; manual skill and knowledge of trade processes the child must pick up under his employer. The school continues the work of the grammar grades with special application to the trade at which the pupil works; gives general historical and technical information about this trade; and familiarizes the pupil with the laws governing it and with his own relation to the city, state, and nation. To impart general information in such a way that the child will apply it to his work and his social relations is, in short, the ideal.

The instruction comprises German, civics, technology, mathematics, bookkeeping, and drawing. The drawing differs with the department.

Machinists begin with the principles of mechanical drawing and pass to copying separate parts from machines used in their respective trades. These models are chosen for their typical value in machine construction as well as for training in drawing. Finally entire machines are copied, and the apprentice who, in industry, is engaged in the manufacture of some infinitesimal part of an object, learns the connection of that part with the whole. The pupils thus understand without explanation specification drawings given them in the shop or factory; and as ability to sketch a desired machine is essential in a foreman or upper grade practical machinist, this course in drawing is the initial step in advancement for the cleverer pupils.

The work connects directly with the course in technology, which is really the nucleus of the entire curriculum. Here are studied trade materials, their origin and uses; the main operations of the trade; the principles governing them; the finished products and their uses; marketing and prices. A painter must learn all his implements and the special uses of the different kinds of brushes and colors. He must understand the manufacture and the blending of oils. He can tell from what flax-seed oil is made; can describe

the plant and its culture; knows where it grows and the color of its blossom, for he has seen it in the school collection, and drawn it for his designing class; and can tell other uses of the flax plant. He learns the relative cost and value of different oils and can explain these facts intelligibly. In short, everything which enters into a trade must be thoroughly understood not only in that specific connection, but in all other connections. As one readily sees, this gives opportunity for imparting varied information of a popular and scientific kind, and instruction in industrial history and geography is here introduced. The teacher keeps in mind the fact that he is not only training labor but educating men, and while the trade is the pivot of the course, the importance of mental drill and culture is not forgotten.

Mathematics follows upon the class in technology and is directly dependent upon it for subject-matter. After the class has studied a given material, all possible problems which might arise any day in connection with it are solved. The text-book is thoroughly practical, having been prepared by educators and business men in collaboration, and its success is attested by the keen interest of even the dullest pupils. Each

boy is required to keep an account-book for a firm doing business in his line.

German is presented in the form of business correspondence, but all the courses are, in a manner, training in the proper use of language, as no pupil is allowed to respond in less than a complete, correct sentence.

The continuation school trains the man at the machine. For the ambitious worker who wishes to rise in the industrial ranks, there is the higher trade school represented by the Berliner Tischler Schule, whose purpose is to give cabinetmakers, who have already for several years engaged in the practice of their trade, an opportunity to round out by exercises in joinery their one-sided training due to present-day specialization. It is a day school with a two year course (open to persons who have completed a two year apprenticeship), including recitation and practice in artistic joinery and in the use of machines, study of materials, industrial chemistry, commercial law, trade mathematics, and industrial design. All the pupils have attended the continuation school during their apprenticeship, but wish to supplement the exclusively theoretical training there given by an all-round practice which they cannot get in a shop or factory where each employee

has a specialty which he follows year after year, and where, in all probability, the factory itself deals with only one branch of the trade. There is absolutely no specialization in the school; each pupil has exercises in all the different kinds of joinery, and each pupil makes a whole object, thus practicing all the trades taught separately in the *École Boulle*. Coming, as the training does, at the end of apprenticeship, it makes for thoroughness and breadth, and exerts an unquestionable influence toward mobility of labor and lessened unemployment.

A similar institute is the Höhere Weber Schule, open to women as well as men, and presenting courses in all trades for the manufacture and use of textiles. The normal length of the course is three years, but many pupils attend merely a trimester to learn some new machine or process. The author expressed surprise at seeing men and women advanced in years working side by side with younger pupils, and was told that women thrown on their own resources often come here to learn a trade; and that men, out of employment in their own specialty and too old to be taken as apprentices in industry, acquire in the Weber Schule a new speciality and so continue self-supporting.

The flexibility of the German, as compared with the French system of industrial education. is here apparent. There is no rigid term of work and no general plan of instruction applied to each department and making of the entire school a symmetrical organization. On the contrary, the theoretical instruction is separate for each branch. The division of time between practice and theory and the length of the courses vary with the respective trades. The emphasis everywhere put upon drawing, and the coöperation between departments which carry out and finish each other's work, remind one of the French program. But the methods and spirit of the art departments are diverse. Whether their contrasting atmosphere is due to a corresponding difference in national temper is hard to determine. The German course is likely to stress at every point trade utility; while, in France, one begins in the realm of pure art and takes the application to the particular industry as an outgrowth of this.

In comparison with the continuation school previously discussed, the pendulum here swings almost as far toward practice as it swung there toward theory. General branches are taught as a running accompaniment to bench work and an effort is made to gain speed and dexterity. This

is the inevitable result of the presence in the classroom of workers experienced in shop methods.

One of the most interesting Berlin experiments in industrial education is the so-called practice workshop for artistic wrought iron, machine construction, and manufacture of instruments of precision, which admits, during unemployment or between jobs, workers who have had several years' experience, and teaches them greater skill in their specialty, or perhaps more of the trades in general from a theoretical or executive standpoint than they can learn in a factory. The course lasts ten weeks, but workers who wish to become foremen or journeymen ambitious for a mastership may remain longer. These latter come again and again to the school and ultimately make their "masterpiece" to submit to the committee chosen by their trade organization to pass upon the work of would-be masters.

Trade education for girls is not so well organized in Berlin as that for boys. The situation is similar to that in America: woman's position in industry is far from settled; the "housewife ideal" still dominates in many of the schools and, in others, exerts a disturbing influence on the regular trade courses. Every grade of institution,

from the domestic science section of the Pestalozzi-Froebel Training School to the simplest commercial course, is represented, including many which are neither one thing nor the other, but attempt a little of both. Germany has not yet taken a stand on the woman problem, and education is temporizing with women in the schools.

III. Munich

The journey from the sandy plains of Brandenburg to the brilliant and invigorating upper airs of the Bavarian plateau is a physical changewhich prepares one for the greater crispness and verve of the Munich school method. Here the German system of industrial education is seen at its highest point. There are the same types of schools as in Berlin—a flexible series that drills the man at the machine and still gives outlet for ability into the upper ranks of industry. But the age limit for compulsory attendance is higher, the hours per week of required schooling, which come in the daytime, are never less than eight, and the training given is more balanced and complete.

It may be questioned why the admittedly faulty systems of Paris and Berlin have been described at the expense of a satisfactory pro-

gram which is thus relegated to a few concluding paragraphs. The reason for this is twofold. Paris and Berlin represent the kinds of school most common in America,—the former finding its feeble counterpart in the Manhattan Trade School for Girls, the Boston Trade School, and the new Wisconsin system; and the latter being reduplicated, in its essential features, by the recent experiment in Fitchburg, Massachusetts. Furthermore, the best is always thrown into sharper relief by comparison with the next best, for the failures of the one illuminate the successes of the other.

The Munich continuation school actively embodies in every dot and iota of the course of study Superintendent Kerschensteiner's phrase "maker of useful men," or better still, "usable men"; and in the clear light of this purpose, the Berlin program seems negative and wavering, a weak compromise between academic and trade ideals. With a useful man in view, the Bavarian school tries to round out the scrappy shop training of the apprentice with such studies as will give him a grasp on his whole trade. The trade can then use him as the exigency of the moment dictates. This grasp, to be complete, must be both theoretical and practical, and it is here that the

Munich educator takes issue with the Berlin method. Berlin maintains that dexterity in technical processes can be acquired only in the factory. and so eliminates practice from the curriculum as a waste of valuable time better spent in general academic drill. Munich avers that unless the child is introduced in school to all the processes of his trade, the greater part of them will always remain a sealed book to him, and he will be, not at all "a usable man," but a narrow specialist, a miscroscopic part of a man, useful in a very limited field. Skill he can learn in business as need arises, but preliminary understanding of trade operations he must get in school in order to embrace opportunities for acquiring skill as they present themselves.

The famous *Prank Schule* gives eight to thirteen hour continuation courses for eleven separate trades, one of the most interesting of which is that for locksmiths. The technology, German, and physics recall the Berlin schedule, while physiology, hygiene, and Bible history explain themselves. Composition deals with all sorts of documents which might be written in the course of the trade. The German gift for exhausting a subject without killing originality is manifested in a detailed treatment of theme work seldom

found in American schools. For instance, a class, representing a master locksmith, has written, at its last session, an order for a grindstone. This stone has supposedly been delivered in bad shape, a crack being plainly visible at its center. The manufacturing firm must now be apprised of the receipt of the stone, of its condition on arrival, of the supposed reasons for this condition, and as to whether it can be accepted or not. All these points having been brought out by class discussion, they are put upon the blackboard. Several pupils compose orally sentences conveying point one, which are criticized with an eye to grammar and style; and when each point has been thus handled, a few oral versions for the whole letter are given. At a final signal, the boys write for themselves the proposed letter, which is subsequently corrected and copied into a notebook for reference when the pupil is in business. The pace for such work is obviously set by the average, not by the best or even better pupils; but as a result of this insistent thoroughness, the average rises with each successive year.

First and second year mathematics is concerned with reckoning prices and materials. Here a remarkable amount of elementary economics enters incidentally. In determining the price to

be charged for certain locks, boys of fourteen handle competition, rent, prime costs, profit, cost of living, and other bugbears of the college student with astounding familiarity and intelligence. In the third year, bookkeeping for a firm of locksmiths is taken up.

Much that is done in drawing-class is used in the workshops. The course aims at precision, and at understanding the specification drawing, the tool, the product, and the principles of its construction.

The idea of the shopwork is to cover the most important operations of the trade and the manipulation of all its tools. Under this system few whole objects can be made, but there is talk of having the pupils make one complete thing instead of so many typical parts. The point at issue is whether what they lose in practice will be made up by what they gain in sense of unity and in the fineness of workmanship which comes from pride in the finished product. In this day of minutely subdivided toil and of complete separation of the worker from the finished product, those two points have educational value which cannot be overstated.

In the trade school for locksmiths having three or four years' experience, the work of the con-

tinuation school is carried forward with more freedom for the individual to develop his own ideas, and with far greater emphasis on artistic production. Mathematics becomes algebra and geometry; drawing and modeling from nature are supplemented by lectures on the history of styles. The Museum of Industrial Art in Munich offers an unparalleled collection of artistic smithwork from various epochs, and study of this collection bears fruit in the practice classes, where many a lock, hinge, or clasp shows the inspiration of older models fashioned with a feeling for their architectural context which is lacking in much modern wrought iron.

Every school in Munich tells the same story of correlation which makes the excellence of French trade education. But here the additional correlation with actual business practice is established. Apprentices and journeymen are studying under teachers formerly or even now foremen or superintendents in industry. Moreover, they are not, as in Berlin, left to the mercy of industrial specialization for their practice and are not studying in the abstract a trade with which their real experience must be fragmentary. Every step in theoretical instruction is illustrated by the laboratory method. The Munich teacher knows that

an apprentice seldom performs the operations even of that branch of his trade at which his master is employed. The apprentice in the shop looks on, hands his fellow workman tools, helps a little here and there. But the pupil in the school has a chance to do at some time in his course almost everything common in trade practice.

The range of subject-matter taught in Munich trade schools seems restricted in comparison with the Paris program. But it matters little what one has studied if one has acquired that asset more precious than encyclopedias of information — the ability to think. There is reason to believe that in doing one thing completely, the pupil develops a more thoughtful habit of mind; and that, having learned by thoroughness in a smaller field how to think a thing out to the ultimate detail, he will be a more apt and creative workman and a more intelligent citizen. At least he will be industrially resourceful, conversant with his whole trade, a useful, usable master of the iron hand.

IV. Switzerland

Before leaving the subject of foreign experiments at trade education, a word must be said about the mountain republic which has outstripped the rest of the world in the matter of

compulsory education. How often does it occur to the casual tourist that his clever Swiss landlord and his apt Swiss servants owe much of their efficiency to training in a school for hotel keepers? As he travels through the bowels of the earth or creeps around mountain shoulders behind the sturdy crouching engines of the Swiss railroad, does he reflect that in spite of Switzerland's meagre natural endowment, the tremendous efforts it has put forth to develop capable citizens have resulted in unparalleled engineering 'achievements: in funiculars; in model sanitoria and hotels; in light and power industries, — indeed, in everything that can utilize the water power which is nature's chief gift; in a perfection of watchmaking absolutely unrivaled; and in a profusion of efficient small producers who can maintain themselves independently against stupendous odds? For a nation to live and prosper on Swiss soil seems flying in the face of Providence, and Switzerland has done it because she is, above all others, the land of public education for public usefulness.

Swiss curricula present little that is new after a survey of French and German systems of vocational education. It is the fitting together link by link of a complete chain of industrial training,

the strengthening of this chain by closely related labor and education laws, and the moral and financial support of it by labor, capital, and the general public—it is this total program which renders Switzerland worthy of special study.

A unique enactment passed in 1906 controls completely the conditions of apprenticeship in Switzerland, and since apprenticeship is so broadly interpreted as to cover any attempt by a minor at a gainful occupation, this law may be said to regulate child labor. No child under fifteen may enter any workshop or factory, and seldom may a minor work for more than ten hours per day. The proper care and instruction of apprentices by their employers is secured by elaborate regulations and a system of penalization under which an employer may forfeit his right to receive apprentices. In addition to this trade instruction given in the master's shop, the learner must be allowed certain time during his working day to attend the industrial, continuation, or general school in his district. Moreover, at the end of his apprenticeship, he is required by law and by trade union regulation to undergo a test of working ability; and many pupils who have passed the legal school age remain in various courses to prepare for this examination.

In some Swiss cantons, school attendance is practically compulsory between the ages of six and nineteen, as pupils remain from six to fourteen in the primary grades, from fourteen to seventeen in the complementary or vocational school, and then follow courses preparatory for the obligatory examination for recruits. In the canton of Geneva, the child goes at three to the École Enfantine, and at seven passes into the École Primaire, where instruction in modern languages and manual training is begun. At thirteen, he enters upon a two years' course in one of the following institutions: (1) Secondary rural schools; (2) the École Complémentaire, a parttime school, which "completes and develops primary education from the point of view of trade practice adapted to the needs of the special locality"; or (3) the École Professionnelle, which is not a course for apprentices, but is comparable to our own manual training high schools. It prepares for any higher special school and aims to develop general capacity and intelligence. After fifteen, school attendance is no longer compulsory, but "employers favor workers who follow higher courses." 1 and often subsidize those which their employees attend.

¹ Astier et Cuminal, L' Enseignement Technique.

Among higher courses, designed to train average workmen, may be mentioned various night schools and several special schools giving trade preparation equivalent to apprenticeship, such as the École des Métiers (for building-trades), the École Mécanique and the École d'Horologie. These schools emphasize practical instruction and give only such academic branches as bear directly upon the trades in hand. Even trade theory is not extensively developed in the curricula. The Technicum may also be entered from the École Professionnelle, but is a more advanced school intended for the training of foremen in construction, civil, mechanical, and electrical engineering. practice plays a large part in the instruction, it is not stressed so much as general trade theory, the Technicum being in this respect a contrast to the trade schools just described. From the secondary rural schools, country children may enter similarly graded courses in agricultural branches. Polytechnical and horticultural universities complete a system recalling the German plan, but even more comprehensive and far-reaching.

The Swiss ideal is represented by the sequence of primary, professional, and technical schools embracing the more liberal features of both French and German systems. But the existence

of the École Complémentaire (the part-time school in which early trade specialization appears) shows that in Switzerland, as in Germany, France, and America, economic pressure is too great to allow the mass of children to continue a general education beyond the grammar grades. The Lehrwerkstätten¹ in Berne offer an interesting solution of this difficulty. In this school pupils are regularly apprenticed and at the expiration of the term are paid a wage for the time they have spent in the shops. The articles they produce are turned over to the trade union council for sale and thus friction with labor organizations because of school competition is avoided. Here, as throughout the entire field of Swiss vocational training, we see a harmonious coöperation of labor, capital, legislative bodies, and educational authorities for the upbuilding of efficient citizenship and national prosperity.

¹ Public training-shops.

X

AMERICAN EXPERIMENTS

"Double, double,
Toil and trouble!
Fire burn
And cauldron bubble."

In that cauldron where the American trade school is brewing, bubbles a quantity of heterogeneous experiment — most of which has already been tried and found wanting abroad. "Experience keeps a dear school," but America will learn in no other. In our eagerness to meet the educational need of our time, we have not planned deliberately or studied our industrial situation in detail. Snatching at a multitude of foreign programs without examining into their previous success, we try them at home; and have not, so far, kept close enough account of their results to judge whether they have proved satisfactory here.

These experiments group themselves as preparatory trade schools, i. e., schools which give

¹ This classification is borrowed from a leaflet published by the National Society for the Promotion of Industrial Education.

a broad, general foundation in manual and academic branches and fit the pupil to enter industry as a learner; trade schools for the average workman, whose aim is to supplant apprenticeship; technical high schools designed to prepare for the upper ranks in industry; and part-time and evening classes for persons already engaged in industry or commerce.

It is evident that most of them are reduplications of French and German types already discussed. The outline on page 151 will show their foreign parentage at a glance.

What has been said in the preceding chapter of the French and German schools may be here reiterated in more emphatic American terms; more emphatic because our industrial situation is more complex and fluid than that in any other country, and a rigid school method will therefore fall more quickly behind the times. Such scientific investigation of American methods as has been made points to the same conclusions as those already reached by European experts.

The preparatory school, which gives a broad basis in manual training and academic branches, does not specialize along definite trade lines, but trains its students in general use of machinery and material so that when they enter any indus-

COMPARISO	N OF FOREI	GN AND AM	COMPARISON OF FOREIGN AND AMERICAN TYPES OF TRADE SCHOOL	ES OF TRAI	DE SCHOOL
Foreign Type	Swiss French "Professional" School	Trade	Berlin Continua- tion School	German Trade Munich Con- High School tinuation School	Munich Con- tinuation School
American Type	General Preparatory Trade School	Trade School for average workman, de- signed to supplant apprentice- ship	Part Time and Evening Schools giving the theory with- out practice	Technical High School to prepare for upper ranks of industry. Note, however, important dif- ference: The German student has al- ready complet- eed an appren- ticeship be- fore entering the School	Certain Private Corporation Schools for employees

try they are defter with their hands and more apt in learning new processes than the raw recruit without previous training. This school may, from one point of view, be classed with manual training high schools, in that a diploma does not certify bread-winning ability and that an apprenticeship is still necessary after graduation. From the developmental point of view, the aims of the types are the same. But the preparatory trade school differs from the so-called manual training school in having a distinctly industrial bias. By emphasizing the value of general education as a preparation for industry, it catches many pupils who would otherwise leave school early to work in poorly paid and uneducative juvenile occupations. Such an institution is the Lawrence Industrial School at Lawrence, Massachusetts, "devoted to opening up avenues to the industries and trades." As Lawrence is a textile center, the school work naturally enough borrows its subject-matter from textile industries. The three years' course comprises business English, mill mathematics, bookkeeping, industrial history, chemistry, mechanics and electricity, raw material, carding and spinning weaving and warp preparation, fabric analysis, designing, dyeing and finishing. Special dexterity in any one of the many processes involved in factory

work along these lines is not the aim. The course serves merely as a general introduction to the industry and the industrial viewpoint. Pupils enter at fourteen; graduate at seventeen.

Such a course raises the question whether the graduate loses or gains industrially by spending in the schoolroom three years which might be devoted to acquiring that special manual skill by which he must ultimately earn his living. The advocate of this plan would be quick in his response that, at fourteen, no child has access to opportunities for acquiring skill, and that, if he goes to work, it will be in some position which leaves him farther behind than the preparatory school. But as Mr. Merritt, of the Yale-Towne Manufacturing Company, justly declares, "In considering the question of industrial education, one of the most important factors is the desire of children to earn something so that they will be independent, and also the desire of their parents to have them earn something to help toward the family support. . . . In many cases where such trade schools have been started, it has been found difficult to get sufficient pupils to fill the schools because they prefer to get into some gainful occupation." An inquiry as to reasons for leaving school, made by the author

among trade union locals in Kansas City, substantiates this observation. A frequent answer, tinged with regret, was, "Most of us stayed in school as long as we could afford it."

Until recently, trade schools which design to supplant apprenticeship have been almost the sole exponents of the industrial ideal in this country. The industrial field, for which one department of a well-known school of this kind prepares, has been exhaustively investigated by the Russell Sage Foundation Committee on Women's Work, and application of their findings to this type of institution seems warranted. The committee selected for special study that part of millinery known as "trimming," but as trade terms are very loosely employed in the business, their work had a much wider range. Two hundred women workers in the industry in New York City were interviewed at their homes by the committee's agents, who questioned them as to the number of positions they had held, the salaries received, the periods of employment, and the opportunities given for learning the trade, and as to whether they had ever attended a trade school. If so, the workers were asked how the school training had helped them in their work. The shop was then visited and the employer's opinion of the trade school grad-

uate and the need for industrial training obtained. The school attended was finally inspected and the classroom work examined in the light of the knowledge of trade needs previously gained. The results of this unique and systematic study recall the statements of the Parisian League for the Encouragement of Apprenticeship and are even more startlingly conclusive. The committee's conclusions may be summarized briefly as follows: (1) Academic training given in connection with trade work is insufficient. (2) The courses are not long enough to give thoroughness and skill. "The experience of millinery workers would seem to suggest that in modern times, perhaps even more than in the days when industrial conditions were less complex, apprenticeship must include learning the trade, as well as one process in it, if the workers are to be efficient. . . . Ability to adapt is of primary importance. ... Yet pyschology and practical experience make it clear that such ability cannot be given in a six months' course." (3) There is not enough practice on single processes, and not enough variety in work. (4) Few of the courses use exclusively real trade material. (5) Many of the teachers are not experienced practical milliners. (6) The pupils do not, therefore, learn the trade as

it actually is; they are not ready to take hold and do something at once when they enter a shop. (7) The school takes girls too young, and therefore graduates them too young to place themselves advantageously in the trade. (8) The school augments the oversupply of workers, which is a principal reason for the pitifully low wages and the slack seasons prevalent in the industry.

It appears here, as in Paris, that the school divorces itself from actual trade practice in spite of an earnest effort to meet the industrial needs of the day. "Our trade schools are no good. It's altogether different outside," said one millinery girl. How to make such courses automatically self-testing, and thus prevent lapses from current methods, is a difficult problem. The particular trade school under discussion has kept no systematic track of its graduates and hence cannot judge of the results of its work; and the temptation is great for the busy teacher to lose touch with the almost vertiginous progress of an industry which, at the beginning of her pedagogic career, she probably knew from A to Z. The industrial torrent rushes rapidly on, but the pupil is caught for the length of the training course in an eddy beside the stream. The more

complicated the trade, and the longer the course, the more urgent becomes this objection.

The same indecision between training for the home and training for the trade which characterizes the Berlin continuation school for girls is felt in our trade schools for girls as well. The short course barely gives time for one line, and a combination of two ideals precludes thoroughness in either. Admitting to trade schools girls who do not intend to earn their living by what they learn, also lowers the standard of school work. There is not that atmosphere of earnest steadiness and painstaking care which must characterize the successful worker in industry.

Technical high schools, of secondary grade, indeed, but still attempting to raise the manual worker in the ranks of industry and fit him for responsible positions, are open to the same criticisms. The Technical High School in Cleveland, Ohio, belongs to this group. The ideal of the school is at once apparent in its course of study: the shopwork for the first year being turning and cabinet-making; for the second, pattern-making, founding and forging; for the third, machine shop practice; and being, for the last of the third and all of the fourth, concentrated on some special branch. Depth and thoroughness are not so

much the aim as breadth and general capacity. To prepare the way for business adaptability, and executive advancement is the object.

Evening schools for persons already in industry are the most common and the oldest method for helping working people educationally. Cultural branches have, as a rule, formed the backbone of such courses. Of late, actual trade instruction has encroached upon the academic preserves of the night school, and we find two distinctly industrial types of courses: one offering general technical instruction, and the other giving special practice work intended to supplement the highly specialized shop training of the modern worker. Excellent examples of all three of these classes abound. The evening school has stormed the most conservative educational citadels. Those who oppose trade education in general as class education, and an undemocratic converging of the lines of opportunity upon one focus, welcome enthusiastically any effort to lift the laborer from the industrial pit into which he falls without it. The utility of the night school as a solution for the industrial training problem is, however, to be gravely questioned. For the young worker it is most unfortunate. The strain of a long day's labor in a factory or shop is

enough, if not too much, for the growing child. And even if there were no danger from overstrain, a child's mind is not in trim to profit by evening teaching after a day of toil. Neither do the short evening hours give opportunity for thorough and comprehensive instruction. It is also doubtful wisdom to give young and irresponsible boys and girls an excuse for staying out night after night alone. If the evening school has a legitimate function, it is certainly for adults. Yet even here the question obtrudes itself. "Is not the evening school a makeshift way of compensating for previous deficiencies in training?" When the public does for its young people all it should in the way of preliminary education, the night school will die. It is, figuratively speaking, the educational vanguard, a compromise which the public makes with the minority who have begun to demand, but have not yet attained, their full rights. However far forward we may push the night school, it must still be regarded as a temporizing measure, useful only in helping adults to combat unfair conditions of early training or present employment.

There remains to be considered the part-time school for those engaged in commerce or industry. This has, in America, assumed two forms:

the private apprenticeship school conducted by certain large corporations, and a few scattered experiments like Lewis Institute in Chicago and the Fitchburg, Massachusetts, High School. The latter reproduces in its essential features the Berlin system of continuation schools. The chief difference is the time divisions between school and work: in place of the six hours spent in school by the Berlin child, the Fitchburg plan provides alternate weeks of school and shopwork. The school instruction is purely academic and theoretical; practical skill must be gained in the factories of the business concerns cooperating with the school board. This plan not only presents all the drawbacks of the Berlin program in leaving the child's practice work to the hit-or-miss tactics of industrial specialization, but raises a serious problem by the duplication of the apprentice force involved. In a small scale experiment, this danger might not become apparent, but if universally applied, would it not lead directly to the equipping of twice the number of workmen needed in industry? Lewis Institute offers certain improvements upon the Fitchburg plan in the way of shop practice, ten hours of the school week being devoted to founding, pattern-making, machine construction and

forging, but the duplication of the apprentice force remains.

The Munich program, which has proved most efficient among foreign schools, is carried out in the United States only in a modified form and by certain wealthy corporations. The apprenticeship schools of the General Electric Company, the Westinghouse Company, the New York Central Railroad, and a dozen other well-known and prosperous concerns attest the success and economy of this method of training workmen. In drafting a final program for public trade education, study of these institutions must play a prominent part. The instruction there given may be narrow from an academic and cultural point of view, but it comprises the necessary industrial elements. It teaches what business needs: the public schools would add what society and humanity need. The General Electric Company's school devotes seven and one half hours per week to theory and fifty-five hours to shop practice in training-rooms equipped for this special purpose. This plan secures both the advantages of the French school, where the work is done under the eye of an instructor, and identification with actual conditions of manufacture — an ideal opportunity which none but the most powerful

of corporations can supply, and which is most nearly approximated in the educational world by the part-time continuation school, including general practice in the curriculum.

The Yale-Towne Manufacturing Company has, for several years past, had in operation such an apprenticeship system which is in effect a practical trade school, producing men for its own work, but also men who could readily adapt themselves to any mechanical operations. Apprentices are paid increasing wages during a four years' course, at the end of which a certificate of graduation is awarded, together with a cash bonus if service has been satisfactory. All graduates are encouraged to remain in the employ of the company and are given substantial increase in wages when they enter upon their career as journeymen. The instruction of these apprentices is carried on in special training-rooms under expert teachers in the different grades of work manufactured and in the handling and repairing of machine tools. Opportunity is given to show inventive ability. Each apprentice is taught individually and is advanced in accordance with his ability. After about two years in the training-rooms, the apprentices are usually placed in different departments of the factory, where they work with

journeymen and come more closely in touch with the regular factory routine.

To acquaint them with the science which lies behind the design of the machines and tools, and with the problems they must meet later on as foremen, the apprentices are required to attend educational classes provided by the company. For these sessions, which fall during workinghours, they are paid the same as when at the bench. The course of study comprises arithmetic, elementary algebra, mensuration, elementary trigonometry, elements of mechanics, power transmission, strength of material, mechanism, mechanical drawing, machine design, and jig and fixture design. In addition, the superintendents and foremen give practical talks relating to the trades. These classes usually occupy six hours per week, twelve weeks constituting a term, and three terms, a year. Advancement is contingent upon passing an examination at the end of each term.

The results of this school have thus far been beneficial to both the apprentices and the company. In quite a number of cases at the end of the second year, when the apprentices have become skillful enough to run an ordinary machine, such as a lathe or a milling-machine, they have

been drawn off from their course by the offer of high wages from some outside shop. During the recent rush to make automobiles, for example, the automobile shops offered unreasonably high wages for only fairly skilled hands; and yet these opportunities to work before completing the course show that the apprentices were receiving in the Yale-Towne shops a training measurable in dollars and cents, and sufficiently flexible to admit of ready industrial re-adjustment.

In classification of the multiform departures along this newest educational byroad, many numerous and valuable experiments have necessarily eluded pigeon-holing; and the line of demarcation between the several classes suggested has been difficult to determine. No two courses are alike; no two have even the same ideal. Each has been shaped by the personal bias and the general observation of some individual or groups of individuals rather than by a systematic study of the industrial conditions they were designed to meet. American treatment of the subject has been deductive rather than inductive -- a result probably of the fact that the movement has been under the wing of the educational authorities with strong preconceived ideas and academic interests. Within the past few years a different

school of enthusiasts has arisen who cry out against present educational methods as sterile and futile. who would eliminate from the course of study all unnecessary and unpractical fields of culture, and train our children with a single eye to working and earning capacity. Neither camp has as yet possessed the whole truth about trade education. The man who would over-academize trade education robs it of its function and virility. The overpractical enthusiast who measures teaching by dollars and cents, and discards everything that has no immediate industrial utility, robs the child of his educational birthright. Man is made for more than wage-earning, but man has a right to wageearning ability, for "his further development along cultural and other lines is conditioned by his capacity to support himself."

No discussion of trade education in America would be complete if it disregarded those industrial schools for the negro, which led in a movement that has now extended to black, red, and white alike. Even during the pioneer stages of negro education, the faculties of Hampton and Tuskegee Institutes held that broader conception of industrial training which saves the trade school from pure utilitarianism. With them it was never the trade for trade's sake, but always the trade

for the man's sake. These two great schools were not organized to train labor, but to uplift and rehabilitate a race. Forty years ago Hampton Institute was a living embodiment of the conviction that education is the most fundamental method of social betterment; and forty years ago, by erecting education on a firm vocational basis, Hampton Institute struck the keynote of true constructive philanthropy. Shortsighted people have both praised and censured industrial training for the negro on the ground that it will confine him to his proper or improper sphere. Results have set at naught both these narrow inferences. Industrial education has paved the way for negro advancement by giving to every black the one right of every man of any color the right to be of some use in the world.

XI

THE TYPE OF TRADE SCHOOL NEEDED IN THE UNITED STATES

A CLEAR-CUT ideal is the first step toward drafting a workable program. What, then, shall be the aim of American industrial education? What finished or unfinished product shall our trade school strive to graduate? Certainly neither theorist nor specialist. Highly skilled specialists are, however, what industry undoubtedly needs and lacks. But why does it lack them? Not because industry could not train specialists; but because the proper material out of which to make specialists is unavailable. Our trouble with present workmen is basic lack of trade intelligence and mental training, which prevents progress from lower to higher forms of work. It is the basis for skilled specialization, for mobility, for executive capacity which the trade school must furnish. General intelligence, general trade theory, general trade practice: these are the essentials. We may add to the old-time educational ideal one word, and read as our objective purpose, "the all-around workman."

The history of the trade school in our country has been so far this: consciousness of the inadequacy of academic education; expensive but too often superficial investigation of foreign schools or schools in other American cities, with an eye to courses of study and ideals rather than results: vague canvass of the business public to measure the desire for better trained workmen; drafting in the educational sanctum sanctorum, a program which first meets the light of day and the eve of practical criticism in the shape of a school built and in operation; hiring instructors who have once been engaged in industry, but who must now teach year after year, often summer and winter, and who thus lose touch with progress in their trades; admitting any and every pupil, whether actually destined for a self-supporting career or not; finding places for a few graduates, but in almost no instance keeping systematic track of each pupil with a view to testing and reconstructing classroom work in the light of its failure or success as a preparation for industry.

Needless to say, this procedure began at the wrong end, soon left solid ground, and has been navigating the upper airs of educational theory ever since. Much really excellent work has been accomplished by American industrial schools.

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But the whole subject is, as yet, nebulous; we do not know how successful we have been or just where we have failed. Instead of duplicating untested curricula, instead of blindly following the blind and investing in expensive educational plants which experience may prove to be unprofitable, let us preface the grounding of vocational schools by a careful survey of our industrial needs and a rigorous testing of the work of already established institutions.

Fundamental questions to be answered at the start are: what industries the school must feed; at what age these industries take on helpers; what sort of work beginners do; what training they are given in the shop; and how many new helpers per year these industries require. We must know what per cent of workers are women: must determine woman's stability as an industrial factor, and see whether it be true that the average woman worker merely passes through industry on her way to marriage. We must know the working conditions and wage scales for these industries, and the qualities upon which promotion depends. We must put ourselves thoroughly in touch with the workers themselves as well as with the employers, and a labor union may have as much to teach us as the manufacturer. The

trade school should look impartially to the good of the greatest number; it must not ally itself with any special interest; must remember that what industry can get out of its workers is no more important than what workers can get out of industry. What the trade needs can be learned from the trade alone; but for what the man needs that the trade may not victimize him, we must go to his living as well as to his working conditions. Business men, foremen, journeymen, trade union members, educators, and philanthropists must join in drafting the program.

Rigorous testing of the work of already established schools ought to have been done from the very beginning by the schools themselves. Each graduate should be followed for several years and the value of his preparation measured in his own and his employer's eyes. Only thus can the school tell whether it is furnishing industry what industry needs; only thus, if at all, can a once flawless curriculum be kept abreast of the times; and only thus can we tell what to save and what to discard in grounding new vocational institutions.

Since no such exhaustive study has yet been made, we are scarcely ready to pronounce upon what kind of trade education will produce the

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all-round workman demanded by American industry. It is, however, certain that only a very flexible form which will continually readjust itself to changing industrial conditions and be continually and automatically tested by industry, can satisfy our needs. We require, furthermore, the system which will never create an artificial supply of workers and which will be at once most economical of time and of results. Can we best attain these ends by preparing for, by supplanting or by supplementing apprenticeship? Which of these systems has proved most effective in Europe? The Munich continuation school, with its obligatory supplementing of wage work for apprentices already placed in commerce and industry. Which system do our successful business enterprises in America embody in their training schools for apprentices? Theoretical instruction and general exercises in practice are given under the eye of a teacher, but the learner is also put into the factory to work side by side with journeymen who are producing for the market. No set instruction can supplant drill at the machine under commercial pressure; nothing can give such timely correction to the inevitable classroom inflexibility. General trade knowledge, general trade practice may be acquired in the school; speed, dex-

terity, and the verification of classroom knowledge come in the trade; and by a combination of these experiences, time is greatly economized, the pupil is able to earn while he learns, and emerges from his training more intelligent, resourceful, and competent. The school for generalizing, the factory for specializing—a continuous and clarifying interaction!—a flexible self-testing system whose courses cannot well lag behind the times, since every pupil is conversant with actual business conditions!

To decide that the school shall perfect our present labor force determines when definite trade instruction should begin. Certainly not before the working age. Premature specialization dwarfs the mind and ties the child down for life to the possibilities of a few simple reflexes. Youth has a right to growing time. There is necessary, too, for intelligent work, a substratum of culture and mental drill, to furnish which a complete grammar course uninvaded by bread-and-butter responsibilities is none too long. We may begin early in the school life, however, to lay the foundation for trade dexterity, as well as trade intelligence, by introducing manual training into the grades. What psychology calls basic skill (whether mental or motor) is acquired very early, probably before the

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twelfth year. If broad muscular adaptability is gained in the grammar grades, the child will come to the higher school—trade or academic—self-controlled, effective, and able to lay hold of special processes without fumbling.

What balance shall be maintained between the academic and vocational, the theoretic and practical elements in the trade school curriculum? We have already seen that theory and practice must go hand in hand to produce an all-round workman and that the school cannot safely leave practice to the shop. The other question is far more difficult to answer. Yet we must remember that by inserting the word "work" in the old educational rubric, we have not changed its import. The test of education has always been utility; the Latin high school, the academic college course were once vocational. Now that new lines of activity come into being, new sorts of work need to be done, we change, not the method, but the matter. The oft-drawn contrast between liberal and practical education does not exist. Both mathematics and chemistry develop thought power, similar, except for the sphere in which the thinking is done. The student of language receives what is for him a practical education, and yet language study is commonly denominated a liberal

or cultural branch. All good education is both practical and liberal; and the training which was once practical for preachers and lawyers is no more liberal than that which is to-day practical for engineers, machinists, or men of business.

If there is no inherent difference between professional and trade education, then whatever in the one is calculated to broaden the vision. strengthen the mind and quicken the sensibilities, is equally proper to the other. Mathematics, science, geography, history, language, literature. music and art — these are subjects of universal applicability, universal utility. But because the young industrial worker has no further apparent use for the half-developed material of his grammar course, he forgets it. Mary Woolman 1 points out that the majority of girls enter the trade school with a very meager general education in which they are not interested because it seems to them useless, but that when they see its bearing on their daily tasks, they desire to study further. The practical instruction is thus their first glimpse into the world of culture. Indeed, "those whose environment is work, find more culture in a trade than in a purely academic school." It opens their eyes to the real vitality of what has before seemed

¹ Formerly head of Manhattan Trade School for Girls.

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dead knowledge, but without which, mere manual dexterity is profitless.

Certain narrowly utilitarian advocates of industrial training, who are not less one-sided in their view than the devotees of so-called higher education, would reproduce in the trade school that very unfavorable industrial situation which it is designed to combat. Yet the vocational idea has not come thus to pare down the man to fit his industrial niche and to strike cultural subjects from school curricula, but to preëmpt and till new fields for culture. Man is a composite; toil is not his only aspect. Education must develop not merely efficient producers, but efficient consumers; and it must provide resource from work as well as preparation for work. Rhythm is the law of life; but there is no rhythm in the existence of one who has never learned the secret of recreation. This secret is not in alternating work and idleness, for nature abhors a vacuum and idleness is not possible for the human mind. The old chord of work will go on vibrating even during enforced physical quiet if some other chord is not touched. A wide range of interests is therefore necessary for sane and wholesome living; and anything which will develop broader sympathies and open up new modes of recreation —all those features of modern

schooling which are too frequently stigmatized as decorative frills—are in the highest human sense utilitarian.

The object of vocational education is civic as well as human and industrial; is, as our preface stated, to hold pupils in school until they are prepared for citizenship. Therefore, history and civics belong here even more emphatically than in the academic school, since to the trade school will come eighty per cent of our voting public.

In short, we conclude that the trade school must not only train dextrous workers, but give, in terms of the working pupil's life, the mental drill he misses by not attending an orthodox high school.

The character of work to be done in the vocational school determines the qualities desirable in teachers and superintendents. In the reaction against academic ideals and methods, instruction in trade schools, and even their management, is often confided to persons with wide trade knowledge and experience, but without pedagogic training. Most of the instructors in the Worcester, Massachusetts, trade high school, for instance, had been foremen in local shops before taking their present positions. One of the masters voluntarily remarked to the author, "I am not a

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trained teacher and when I came into the school. I knew almost nothing about how to present a subject to my pupils. I knew how things ought to be done, but to show the boys and make them understand was another matter. To show thirty boys at once was quite different from showing one greenhorn in the factory." Here was a man who knew industry well, who had just the information of which his pupils stood in need, but who was handicapped by lack of transmitting power. Before he could teach, he must learn how by lengthy practice on the youths who came to him for instruction. On the other hand, there was, in one of the academic branches, a professional high school teacher quite unacquainted with the trade needs of the boys under her jurisdiction. She was teaching in accordance with the old academic ideals and completely vitiating any vocational atmosphere which her subject might have had. In this one school were presented both horns of the dilemma which confronts us in an attempt to secure for the trade school an efficient faculty. The workman cannot teach and the teacher cannot work. For this new field we need a new educational birth molded of trade and scholastic ideals. The successful trade school teacher must be broadly educated, peda-

gogically trained, and industrially practiced if he is to develop at all points the capacities of his pupils. The mere mechanic whose vision is limited by factory walls will perhaps (after he has learned to instruct them) make adroit workers of his pupils. But he will not be able to widen their outlook upon life or even upon industry beyond the narrow view which they might obtain by serving an apprenticeship in the factory which shaped the master.

Awake to the fact that vocational training is not merely a trade but an educational problem, some European countries have special normal courses preparatory for trade school positions and require, in addition to this theoretical training, not only that the teacher must have been employed in industry before his pedagogic career begins, but that while he is engaged in teaching, he must still spend part of his time in a factory of the type for which he prepares his pupils. Thus it is hoped to obtain as instructors both good mechanics and broad-minded, well-balanced men of practical culture.

But what will supplementary courses do for the unfortunate young people who have, as yet, no job worthy of the name of trade? What of the thousands of children in the so-called juvenile oc-

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cupations where "the best is like the worst"? What of messenger boys? Office boys? Errand boys? What of the entirely unoccupied child?1 The Manufacturers' Association in its 1908 convention disapproved of founding schools for youths already employed in legitimate commerce and industry until those outside had been provided for, justly arguing that they stood most in need of assistance. To help the man who already has a job and desert the poor devil who can't, through lack of training, procure one, seems an over-cruel application of the parable, "to him that hath shall be given." Here appears the true function of what we have called the preparatory trade school. There is no future in his own calling for which we can perfect the messenger boy, but we may perhaps open up avenues to better employment in other lines by giving general manual, mechanic, and business training which can be turned to good use in any trade. Perhaps, too, when continuation schools are once established, it will not be so hard for young workers to gain entrance to desirable occupations. Employers may be willing to take on apprentices when they know that the whole burden of training will not

^{1 &}quot;Probably child idleness is a more serious matter in the United States to-day than child labor." Richard T. Ely.

fall on commerce and industry; when they know that juvenile helpers will no longer be a static, unskilled element in their labor force.

In a report of the National Society for the Promotion of Industrial Education, we read that the industrial improvement course has assumed and will probably continue to assume the form of an evening school. So long as vocational self-improvement remains optional, this will undoubtedly be the case save where an exceptionally progressive employer cooperates with the educational authorities, as in Ludlow, Fitchburg, Cincinnatti, and Chicago. But should continuation courses be made obligatory, time for them can be taken (as it must be if the best results are to be accomplished) from the working day and such shifts arranged as will not necessitate reduplication of the apprentice force. Indeed, claiming this educational birthright of general intelligence, trade theory and practice cannot be left to unguided whim, which may barter it for a little more ready money, for early independence, for any will-o'-the-wisp of youthful short-sightedness or parental self-seeking. Vocational training must be made obligatory.

XII

CHOOSING A VOCATION

In discussing the difficulty with which youths enter desirable occupations, we have stressed chiefly their lack of training for skilled work. But the difficulty is also traceable to an ignorance of the desirability or undesirability of various occupations, which leads to a short-sighted initial choice and a permanent check in advancement. Ignorant of their mental or bodily unfitness for a trade. thousands of our most promising young people get into uncongenial, spirit-breaking toil, or practically commit suicide by taking up tasks for which their physique is inadequate. Lured by a comparatively high beginning wage, children wander into industrial cul-de-sacs, and students estimate that the largest per cent of unemployment is among persons who have been pushed out by the younger generation from trades offering neither prospect of advancement nor training for other lines of activity. English poorhouses are filling with men and women unfitted for any but a pauper's life by their ill-starred at-

tempts at early self-support. The same waste of human resources is apparent in our own country. The Massachusetts Commission on Industrial Education found twenty-five thousand children between the ages of fourteen and sixteen who were engaged in the lowest unskilled forms of industry; and Dr. Kingsbury's investigation into the conditions of their employment showed what a bleak industrial future they could anticipate.

Trade schools of the type suggested in the preceding chapter will only partially obviate the dangers of mischosen occupation. For the child already engaged in a trade where progress is possible, they will open the door to promotion. For the child caught in some mesh of toil with no outlook for the future, they will open the door of escape. But they cannot save children from getting into the wrong job, and conserve the time, ability, and potential accomplishment wasted by our hit-or-miss method of choosing a vocation. No amount of industrial education can fit a child well for something to which he is unadapted, and, until we make sure that our young men and women go into the work to which they are best suited and which will give them the best chance of rising in the industrial scale, elaborate

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systems of trade education will not repay the investment which they represent. Trade schools need a supplementary measure to utilize most effectually their possibilities; and this supplementary measure is systematic guidance of youth in selecting an occupation. The boy or girl emerging from the shelter of school life into the hurly-burly of business, needs to be told the facts about openings which present themselves. They cannot judge for themselves because trade has shut itself up in factories with No Admittance signs across the workroom doors. If the child consults an employee as to the nature of a business, he hears of single processes performed day after day without variation - and, considered singly, the processes of one trade are about the same and about as unattractive as those of any other. The child must be made to understand that no employer of high-grade help wants a worker who has spent the formative years of his life as a messenger or errand boy, drifting from job to job and forming irregular, shiftless habits inimical to business efficiency. He needs to be shown the wisdom of starting in a skilled trade at a low wage rather than in an unskilled, blindalley trade at a temptingly high one. He should also be cautioned against unsanitary occupations.

The immigrant child ought surely to be warned of industrial pitfalls in the trades at which aliens snatch so helplessly while struggling for a foothold on American soil. Such systematic vocational guidance, nation-wide in range of vision, could distribute more rationally our foreign influx, since it is timidity and ignorance of other opportunities which bind immigrants to huddled quarters in seacoast towns. The finer qualities of our immigrant population, those spiritual and intellectual traits which should brighten and vary the pattern of American life, we stifle by thrusting the new arrival into a treadmill of drabbest American toil out of which he comes shorn of most that is foreign and stimulating in mind and manners. The evils introduced into our country by immigration are bruited abroad at the expense of the good, the racial freshness, the poetry, and the peculiar talents which an enlightened policy would cultivate till, under more favorable environment, they blossomed like rare exotics in American gardens. To guide immigrant children into occupations adapted to preserve and develop their valuable racial assets would, perhaps, prove the sanest way of Americanizing our new citizens.

The child not only lacks knowledge of the

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different trades, but he needs to be stimulated to think of his own qualifications as a worker. "Know thyself," said the old philosopher, and surely, in the choice of a vocation, self-knowledge is the beginning of wisdom. Yet it would seem that self-knowledge is a lost art of the romantic age. People are interested more and more in outward, objective things, forgetting that things are important only for their value and that value is an expression of personality. An inspiring fact about charitable and corrective work is that it gives us better methods of handling normal individuals. Maud Miner¹ recently said of wayward girls, "All these fallen women have ambitions, ideals, and talents just as have the rest of us. It is the task of the probation officer to get hold of these, quicken them and sustain them till they carry the girl out of her life of shame into one of honorable activity." Just as have the rest of us ! There is the kernel of significant truth. Who knows what funds of usefulness are yearly squandered in people who come to nothing - good or bad - because their real abilities have never been given proper outlet in activity? And who can hesitate to prophesy that the

¹ Secretary of the Probation Association and formerly probation officer in the New York Night Court.

national happiness and prosperity would be a hundred fold augmented if every human being could industrially find himself and do just that thing he came into the world to do?

Not only what trade the child shall follow, but what further studies, if any, he shall pursue, is usually decided at the end of the grammar school course. Here is the crucial moment when children looking aimlessly for a job can be economically and permanently helped. To the oft-repeated question, "What can the grammar schools do for industrial education?" we therefore answer, not only, "prepare for trade instruction by basic manual training." but "emphasize the fact that school looks toward life rather than toward learning, by directing graduates into a congenial vocation or an institution preparing therefor." Thus should we better the old educational economy, which saved at the spigot and wasted at the bunghole in compelling school attendance and then allowing enormous leakage between school and work.

To guide children in the choice of a career necessitates a detailed, inclusive knowledge of industrial, commercial, professional, and agricultural conditions, which can scarcely be expected of a teacher. Here is the function of the voca-

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tional expert. In school activity, as in all fundamental social endeavor, a reliable body of comprehensive statistics as to our industrial situation is thus seen to be imperative. To ground a system of vocational education; to draft a course of study for a trade school; to give the grammar school graduate adequate counsel when he vacillates between idleness, further schooling, or immediate work of a dozen types - to do any one of these things, we must know the facts as to our business world. In every community a thorough investigation of living and working conditions, kept up to date by periodic tallying, would be a paying investment. To its records would go the agitator for factory regulation, the student of woman and child labor, the advocate of a minimum wage, the unionist eager to fix a standard living wage, the Consumers' League preparing a list of fair houses or granting the label to manufactured goods, the housing expert, and the reformer combating the social evil or fighting for more generous recreation facilities. From such a survey, all movements for social betterment would draw the facts whereby to shape their programs. It would keep a steady finger on the pulse of life, and experience in such an investigation would be invaluable training for the various forms of constructive effort, as it

would give balance of mind and insight into the underlying sources of social disorder.

The work of such clearing-houses of information as the Boston Vocation Bureau is described by Meyer Bloomfield in *The Vocational Guidance of Youth*, yet even this Boston bureau feels that the surest way to bring the results of its investigation home to those who need them is through coöperation with the school organization. The central bureau becomes the repository of information; the school authorities are the link which draws together the child and the advisory expert.

The results of a successful system of vocational guidance will be manifold. Better adjustment of labor to demand, greater satisfaction, efficiency and advancement on the part of the worker, lessened unemployment and labor wreckage,—all begin to attest the value of existing experiments to those directly touched by guidance work. But the most important results come, not from special advice given to individuals, but from bringing the public to consider the relative desirability of diverse occupations. Unprejudiced guidance must mean a partial boycott of undesirable trades, for only inferior workers will seek employment where conditions are dangerous or unsanitary, hours long, wages low, and work tedious. Dissemination

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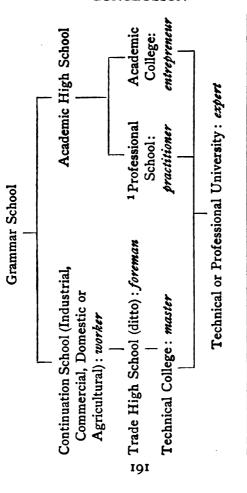
of these facts, now but vaguely apprehended, will enforce, more surely than ill-supported legislation, the installation of safety and sanitary devices and the general improvement of labor conditions. The manufacturer is made or unmade by patronage, and progressive employers, now forced by competition into countenancing labor conditions which they deplore, would welcome enlightened public opinion on these questions, since it would be the final weapon in driving from the field unprincipled competitors. Vocational guidance wisely conducted would prove both an effective means of social conservation, and a potent force in reconstructing industrial standards.

XIII

CONCLUSION

THE term "vocational training" is as broad as life itself, and at the conclusion of this brief volume, we have barely broached the question. Trades are multitudinous; those trades only could be our theme which press upon us most urgently as an educational problem. But the principles evolved for industrial, agricultural, and domestic courses are equally applicable to commercial, mercantile, technical, and professional training. Even within the trades chosen for discussion. there has been a further limitation in treatment. We have dealt principally with the ordinary man: technical schools, whether of high school or college grade, aim definitely to prepare for managerial positions. Yet these higher schools are one in spirit with institutions giving elementary trade instruction; all fit for productive, self-supporting life; all look toward the practical social use rather than the individual acquisition of culture and knowledge. The articulation of the elementary vocational school with a complete system of

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1 Here are included Normal Schools, Schools of Law, Medicine, etc.

vocational education, and the place in this plan for purely academic training is shown by the accompanying tentative outline. Such a schedule is but the world in abstract, a plat of that arterial system through which inspiration and intelligence circulate to every social organ.

The function of this present book, however, is suggestive rather than exhaustive, and its object will have been fully accomplished if, amid the windings of its theme, one dominant idea rises continually to view: the idea of social welfare. This is the touchstone by which the trade school will be tested. Not because agriculture, industry, and homemaking need competent workers; not because vocational training will quicken the artistic sensibilities of our people; not because present schools do not interest our children; not because man has a right to self-support; not because criminals will find in the trade school their salvation: not because women receive from it marital and industrial freedom; not because the unionist sees therein an advantage for his order and the socialist believes it a step nearer the millennium: — but because, from the deeply underlying harmony of these several interests, we infer one mighty common interest for all mankind. The vocational school preserves nor-

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mality and efficiency; it strikes to the bottom, and has, in the broad program for social betterment, a central place. Education and legislation: education the creator, legislation the conserver; education the fluidizing, legislation the crystallizing element — these are the only sure instruments of progress. And the real motive power and vital spark lie in education.

Democratic and practical schools for plain men, more than other educational propaganda, contain this potent force for uplift. More than anti-tuberculosis societies, more than scientific charity and correction, more than juvenile improvement clubs, Boys' Scout movements, or any brave enterprise pushing forward alone to the frontiers of regeneration! For in vocational schools, Knowledge comes forward saying, as in the old play, —

"Every man, I will go with thee to be thy guide,
In thy most need to go by thy side."

They will widen the scope of education to embrace all classes of society, to include those very classes which charitable agencies strive ineffectually, because fragmentarily, to enlighten.

The problem of vocational training is also more profound than preparing men and women to work. It is to educate the public mind, to embody a

working ideal that will gradually transform industrial practice, until labor, no longer cramping and brutalizing, is a beautiful realization of the noblest human possibilities; until the old words of the Benedictine Rule take on their fullest meaning, and to work is verily to pray.

XIV

BIBLIOGRAPHY ON ELEMENTARY VOCA-TIONAL EDUCATION

In selecting a bibliography on vocational training, one is hampered by the great bulk of material dealing with the topic, and by the endless repetition of subject-matter which this literature displays. Discussion has so far been largely confined to criticism of current educational methods. arguments for the establishment of vocational schools, and general statistics concerning foreign systems of vocational education. The first two classes of articles are as a rule vaguely theoretical, and the last class often fails to give a good working idea, either of a foreign system as a whole, or of just what is done in any particular Even the detailed descriptions, trade school. published in English, of foreign vocational schools are usually unsatisfactory because they give ideals and abstracts of curricula rather than actual classroom methods and their results as a training for subsequent employment. Reliable and complete studies of trade school

results as seen in the subsequent experiences of graduates is lacking for both American and foreign institutions.

The object in compiling this bibliography has been to make it at once as brief and as representative as possible, and the following books, articles and reports are chosen, not because they alone are worthy of perusal, but because each presents the subject from a different and important point of view.

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